Solution
- Factory Automation

At a Glance

Along with the rapid development of technology, factory plants have been transformed to ones that are equipped with automotive production system so that equipment efficiency can be greatly enhanced and operational costs can be reduced to minimum. The critical role that leads to this change is the prevalent use of Ethernet-based networks in connecting isolated networks across the plant to communicate each other without difficulties and enabling decision-makers to launch product plans faster than before.

However, to build up well-connected and beneficial networks in factory plants faces several problems. Firstly, some factory plants such as steel or automobile factory are exposed in the environment with dusts, high moisture, humidity and even higher temperature. Secondly, some legacy machines in factory plants only support serial protocol in Industrial Automation applications. Therefore, it is vital to choose network devices that can support both serial and Ethernet-based connections.

To reduce downtime and enhance productivity, it is also important to take redundant mechanism into consideration. All in all, to set up a successful network system in factory plants, there are several challenges that we may face and need to be handled with caution.
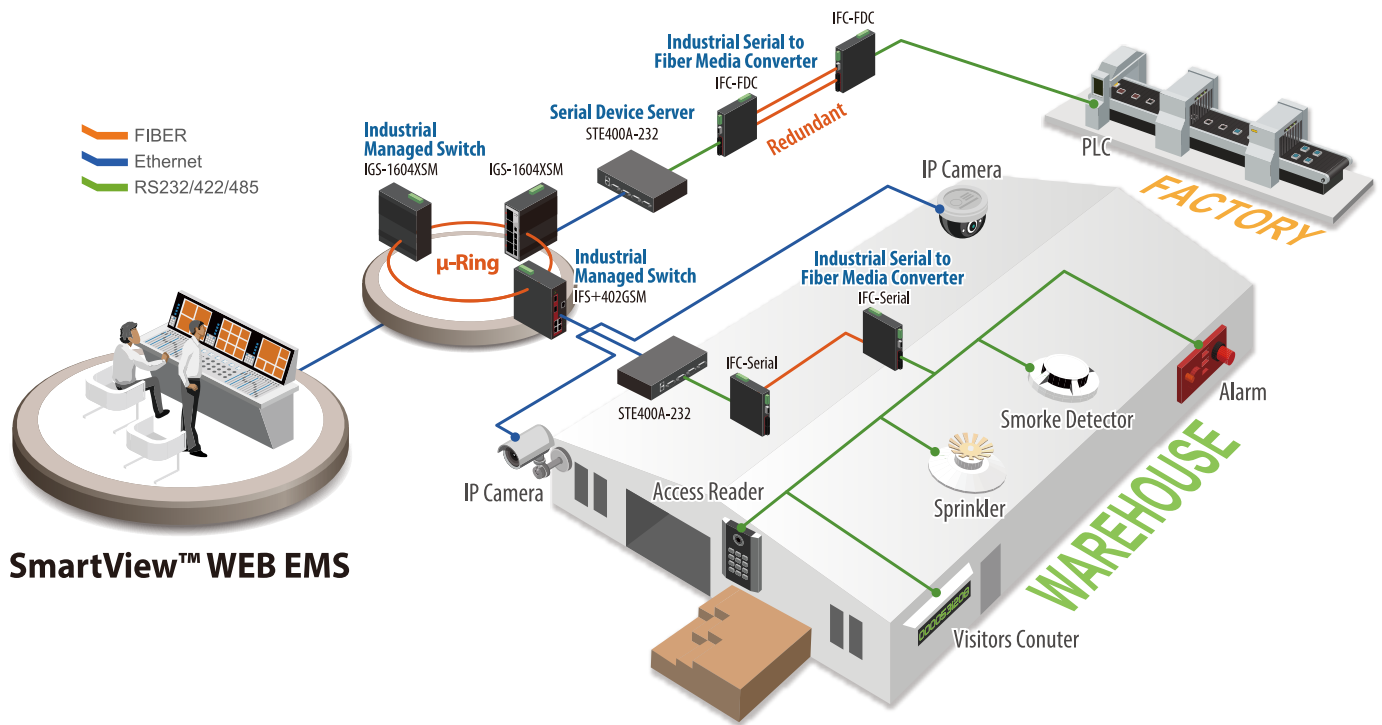
Challenges

· Devices placed in factory plants are easily affected by various noises which can result in unstable quality, increased cost and working hours.

· Improper serial ports' grounding leads to system instability or failures.

· Devices placed in factory plants may have high possibilities to suffer from ESD, EFT and surge.

· When a single point of failure occurs in a device, production output may be greatly affected.

· Some legacy devices do not support Ethernet-based connections. They only support serial protocol.

· Factory plants may be exposed in environments with dust, high moisture or higher temperature.

CTC Union's Solution

· Provides Industrial grade EMI and EMS certification to offer better protection against ESD or surges.

· Serial ports such as RS-422/RS-485 are isolated (2.5KV) to minimize the risks of system instability or failures.

· Supports dual fiber, ring or u-ring redundancy. u-Ring can support up to 5 rings (maximum) and can recover from a single point of failure in 10ms.

· Supports fiber and serial connectors such as RS-422/RS-485 to allow greater flexibility and scalability.

· Supports wide range of operating temperature (-40~75℃) with rugged design.

Application

FIBER
Ethernet
RS232/422/485

Industrial Serial to
Fiber Media Converter
IFC-FDC

IFC-FDC

Serial Device Server
STE400A-232

Industrial
Managed Switch
IGS-1604XSM

IGS-1604XSM

Redundant

PLC

FACTORY

μ-Ring

Industrial
Managed Switch
IFS+402GSM

IP Camera

Industrial Serial to
Fiber Media Converter
IFC-Serial

Alarm

IFC-Serial

Smorke Detector

STE400A-232

Sprinkler

IP Camera

Access Reader

WAREHOUSE

Visitors Conuter

SmartView™ WEB EMS

Related Products

Industrial GbE Managed Switches
IGS-1604XSM & IGS-804SM & IGS+404SM

Industrial FE Managed Switches
IFS+803GSM & IFS+402GSM

Serial to Fiber Converters
IFC-FDC & IFC-Serial

Serial Device Servers
STE400A-232 & STE800A-232

· The specification and pictures are subject to change without notice.

08/2024 V1.0