

>> simplified version

Since safety communication and non-safety communication can be mixed, it is possible to build a safety system with saving wiring and low cost.



Integration of Safety and Non-Safety Network!

» Features

Mitsubishi Electric Corporation offers a wide range of products for building safety systems, and proposes

Total Safety Solutions that realize "corabolation" between with humans and machines.

Achieve both **Safety** and **Productivity**, System cost can be reduced.



Integration of Safety and Non-Safety Network!



» Features

Safety Communication Function

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Safety PLC

Save wiring

Communicate via CC-Link IE TSN (Ethernet cable) without using safety IO. Only one cable is used. A single cable can be used to **save wiring costs**.

Safety/Non-safety Integration

Safety and non-safety communication, safety and general control can be integrated, and safety control can be **easily monitored from general control**.

Flexible

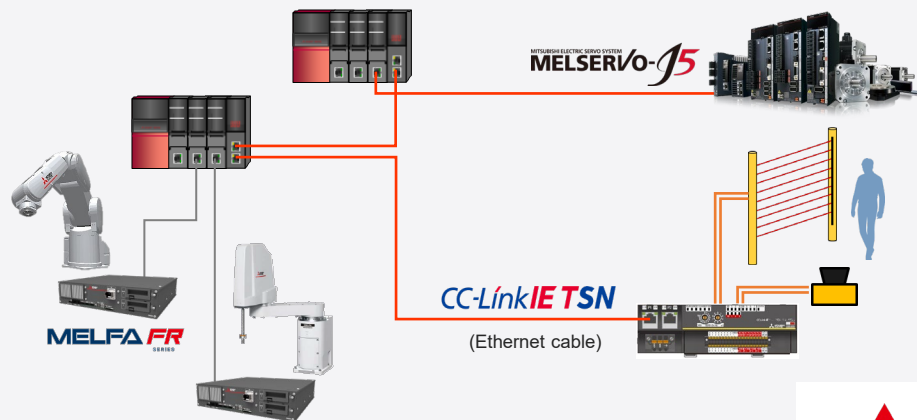
Since it is controlled by PLC program instead of a safety relay, **complicated control is possible flexibly**. Changes and maintenance (restoration) are also easy.

» Diagram

For safety control of systems containing **multiple robot controllers** and **peripheral drives**



CC-Link IE TSN enables **flexible safety systems** by linking with safety PLC



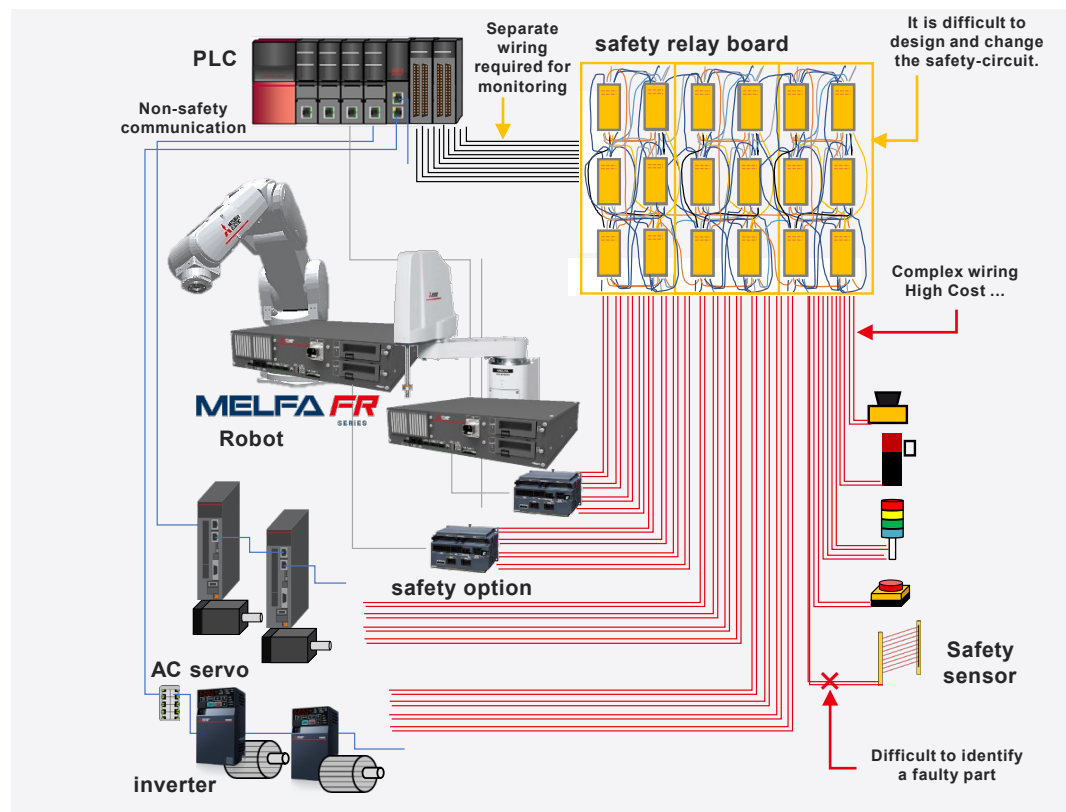
Robotic Products: CR 800 R
Category: Standard

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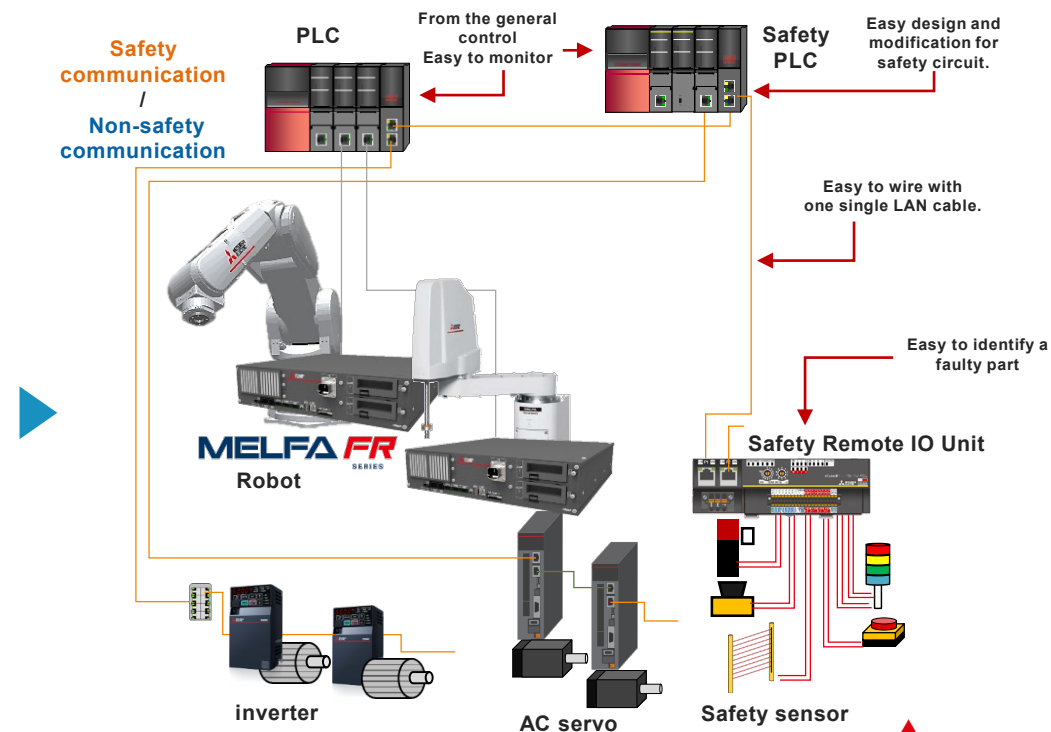
» Features

» Diagram

Before Safety I/O x Safety Relay (H/W Control)



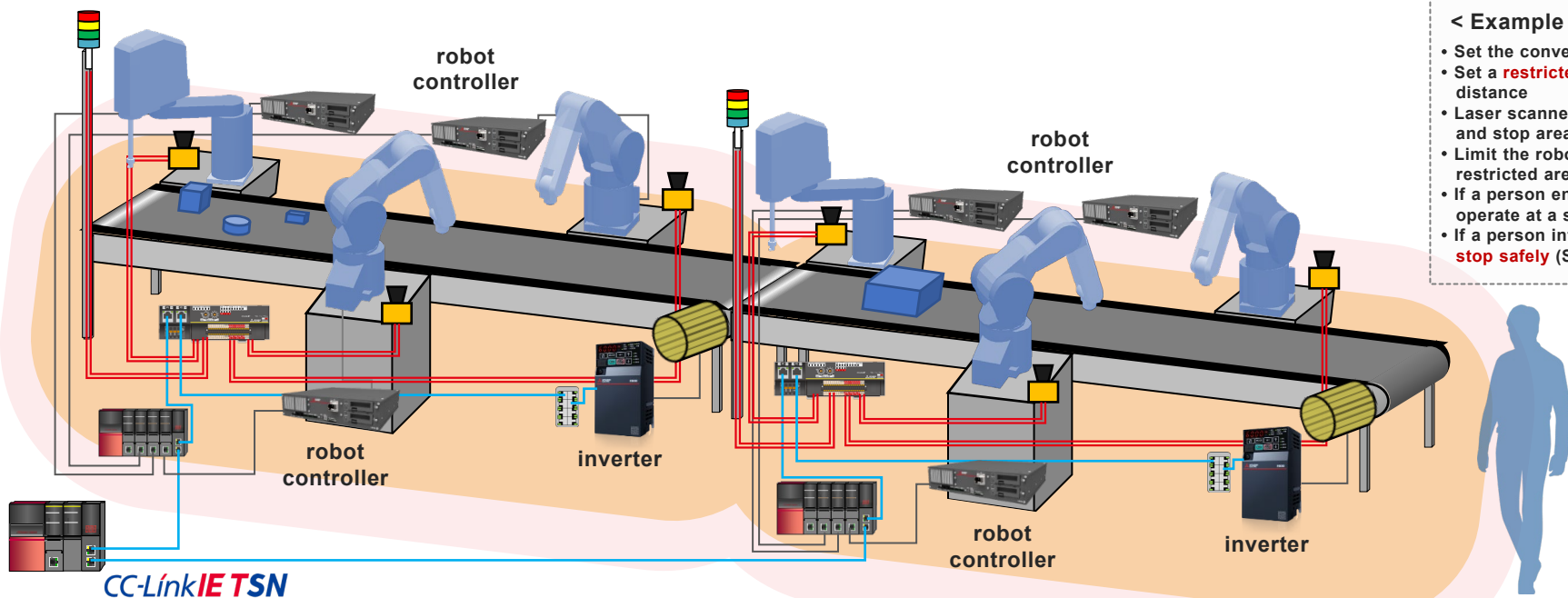
After Safety Communication Function x Safety PLC



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» Features

VFDs around robots can be **safety controlled** with safety communication function and safety PLC.



< Example of safety measures >

- Set the conveyor and robot operation area as **the stop area**
- Set a **restricted area** around it in consideration of the safe stop distance
- Laser scanner detects the intrusion of people into restricted areas and stop areas.
- Limit the robot's operating range to reduce the stop area and restricted area (SLP)
- If a person enters the restricted area, the robot and inverter will operate at a safe speed (SLS).
- If a person intrudes into the stop area, the robot and inverter will **stop safely** (SS2, SS1).