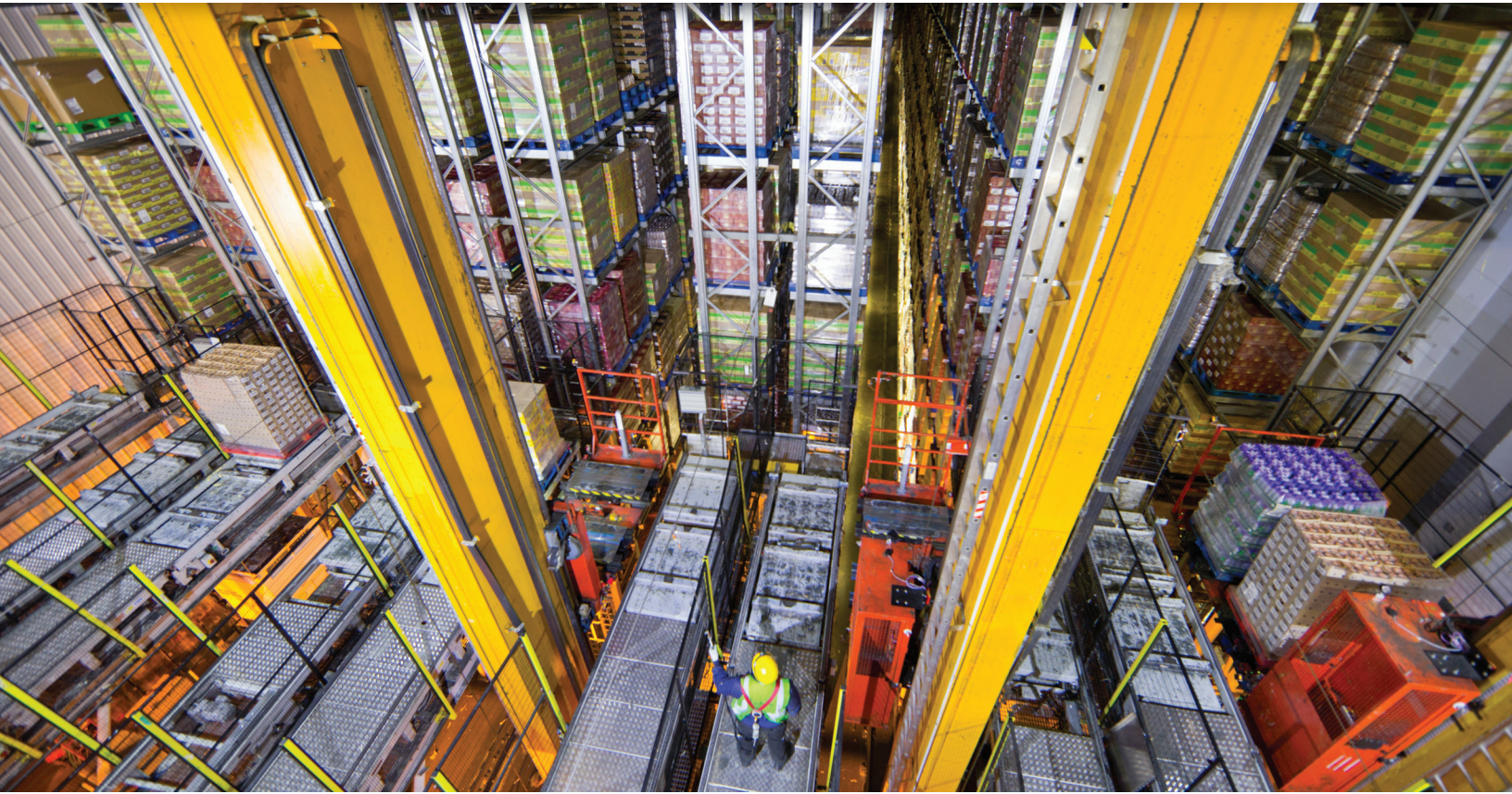# Safety Controllers Solutions for Logistics

- Easy integration
- Scalable configurations
- Quick diagnostics

EtherNet/IP™ | **EtherCAT®** | CIP Safety **EtherNet/IP™**

Safety Controller Line

Our safety controller portfolio offers a powerful and robust path to help to develop a safety system that meets all your functional requirements and is able to reach the **highest level of functional safety**, PLe, according to EN/ISO 13849-1 and SIL3 according to IEC 61508.

The **G9SP** is a compact safety controller ideal for small to mid-size machine, with a friendly programming environment including embedded simulation and monitoring tools, that makes program development and troubleshooting easy and accessible.

The NX-Safety controllers offer two series **NX-SL3** and NX-SL5, both offering easy integration, quick diagnostic, and different option to develop scalable safety systems and support flexible manufacturing strategies.

The NX-SL3 offers a cost-effective safety controller with a modular design making it easy to adapt to a variety of machine types and sizes. For systems requiring remote I/O, the NX-SL3 can be combined with an EtherCAT coupler to enable Functional Safety over EtherCAT(FSoE), making the project seamless to operate and maintain.

The **NX-SL5** series offers scalable safety solutions and supports CIP Safety over Ethernet/IP, FSoE, or both simultaneously to meet the most exhausting functional safety requirements. Advanced tools like the EDS tool to add third-party devices over cip safety, data logging, and easy access to check safety signatures, make it easy to manage a safety system on your factory floor.

NX-SL5 Series
- Ideal for machine-to-machine safety and large-scale systems
- Supports CIP Safety over EtherNet/IP and FSoE
- Up to 2032 safety I/O points
- Up to 254 safety connections (NXSL57)
- Enhanced diagnostic tools
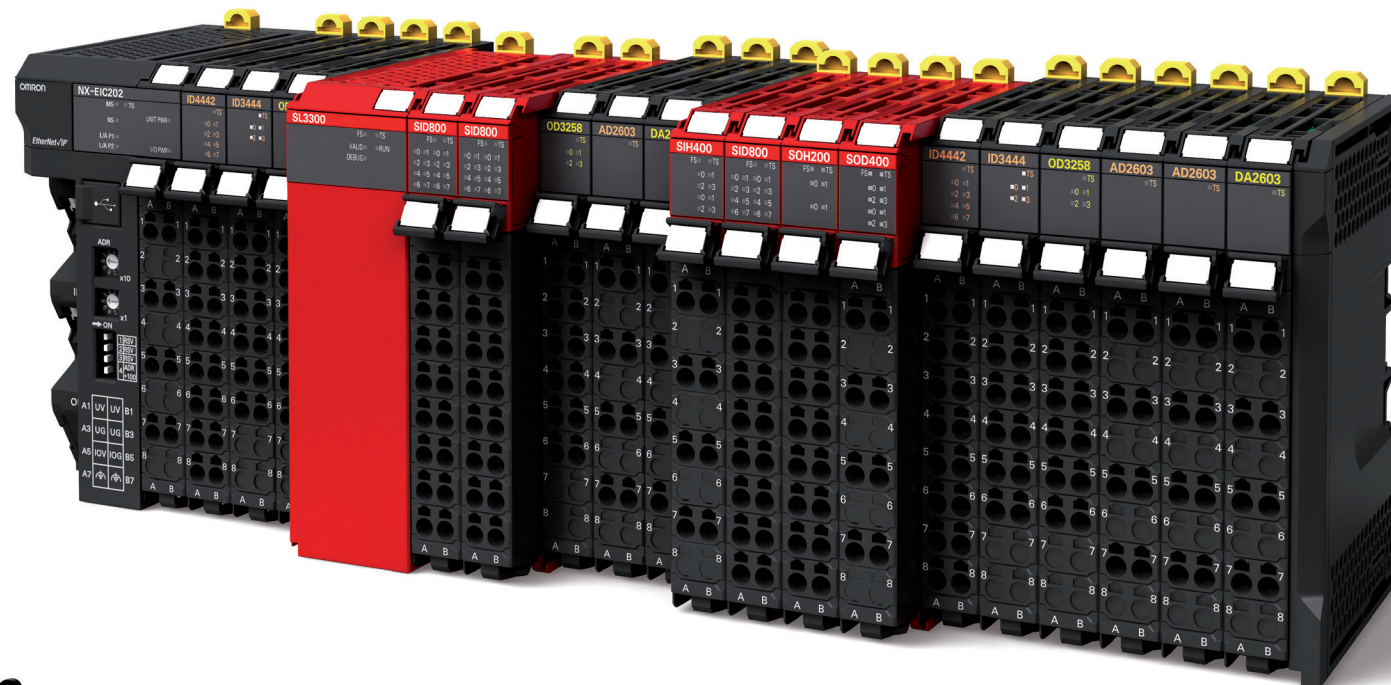- Safety and standard digital/analog slices can be combined

EtherNet/IP   **CIP Safety**   Safety over **EtherCAT**

EtherNet/IP | **EtherCAT**

Modular Safety
- Ideal for add-on safety solution when combined with Ethernet/IP coupler (NX-EIC202)
- Up to 256 safety I/O signals when using EtherNet/IP coupler
- Up to 1024 safety I/O signals when using NXSL35 series with EtherCAT couplers or NJ/NX-series
- CPU Units *
- Safety and standard digital/analogs slices can be combined

NX Safety stand-alone

Safety Relay   G9SE
- Compact safety relay for small applications
- Slim design and push-in terminals

G9SP

Compact Safety
- Clear diagnostics and monitoring via Ethernet or serial connection
- Expansion I/O units for hardwired diagnostics or standard signals

Sysmac Studio
Take the advantage of the power of Sysmac Studio when using NX safety controllers. Sysmac Studio is a true integrated development environment (IDE) that provides one environment to set up, program, debug, and maintain standard and safety controls. Built-in tools simplify safety solution configuration, programming, simulation, and integration.

Sysmac Studio software tools comply with IEC 61131-3 and use PLCopen safety function blocks.

Sysmac Studio

PLCopen safety
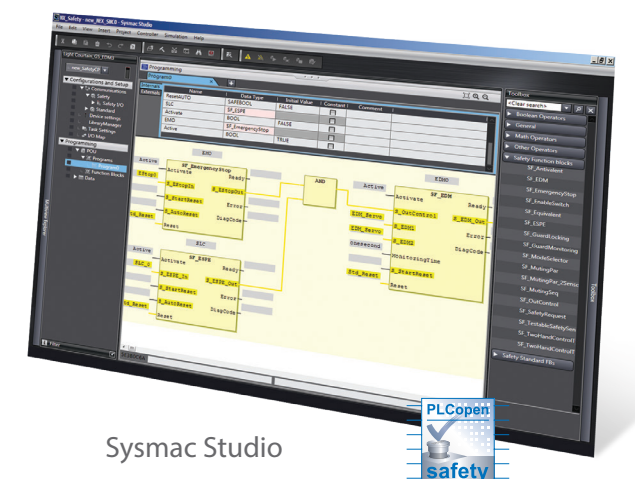
Safety Controller Selection Table

Safety Controller	Communication Unit	Safety Network	Safety I/O Max	Program Capacity	Programming Environment
G9SP	CP1W-CIF01* CP1W-CIF41*2	No	28	128 function blocks max	G9SP Configurator
NX-SL3300	NX-EIC202*3	No	256	512kb	Sysmac Studio *6
	NX-ECC202 NJ/NX-Series CPU Units*4	FSoE			
NX-SL3500	NX-ECC202 NJ/NX-Series CPU Units*4	FSoE	1024	2048kb	
NX-SL5500	NX-CSG320	CIP Safety	1024	2MB	
	NX102*5	CIP Safety FSoE			
NX-SL5700	NX-CSG320 NX102*5	CIP Safety	2032	4MB	
	NX102*5	CIP Safety FSoE			

* Optional EtherNet board for non-safe communication
*2 Optional RS-232C board
*3 EtherNet/IP Coupler for non-safe communication
*4 These Units cannot be mounted to Machine Automation Controllers with NX1P CPU Units. Mount and use an EtherCAT Coupler Unit instead.
*5 NX1P2 CPU Units cannot be connected.
*6 Sysmac Studio License type compatible are: Sysmac Studio Standard, Lite and Safety versions. All version licenses are ordered separately.

OMRON

Authorized Distributor:

Controllers and I/O
Machine Automation Controllers (MAC) | Motion Controllers
Programmable Logic Controllers (PLC) | Temperature Controllers | Remote I/O

Robotics
Industrial Robots | Mobile Robots

Operator Interfaces
Human Machine Interface (HMI)

Motion and Drives
Machine Automation Controllers (MAC) | Motion Controllers | Servo Systems
Frequency Inverters

Vision, Measurement and Identification
Vision Sensors and Systems | Measurement Sensors | Auto Identification Systems

Sensing
Photoelectric Sensors | Fiber-Optic Sensors | Proximity Sensors
Rotary Encoders | Ultrasonic Sensors

Safety
Safety Light Curtains | Safety Laser Scanners | Programmable Safety Systems
Safety Mats and Edges | Safety Door Switches | Emergency Stop Devices
Safety Switches and Operator Controls | Safety Monitoring/Force-guided Relays

Control Components
Power Supplies | Timers | Counters | Programmable Relays
Digital Panel Meters | Monitoring Products

Switches and Relays
Limit Switches | Pushbutton Switches | Electromechanical Relays
Solid State Relays

Software
Programming and Configuration | Runtime