

G9SP Safety Controller

The standalone safety controller for small to mid-size applications



- Complete safety solution with HMI controller
- Reconfiguration tool as standard
- Simple setup and clear diagnostics

Modular safety control

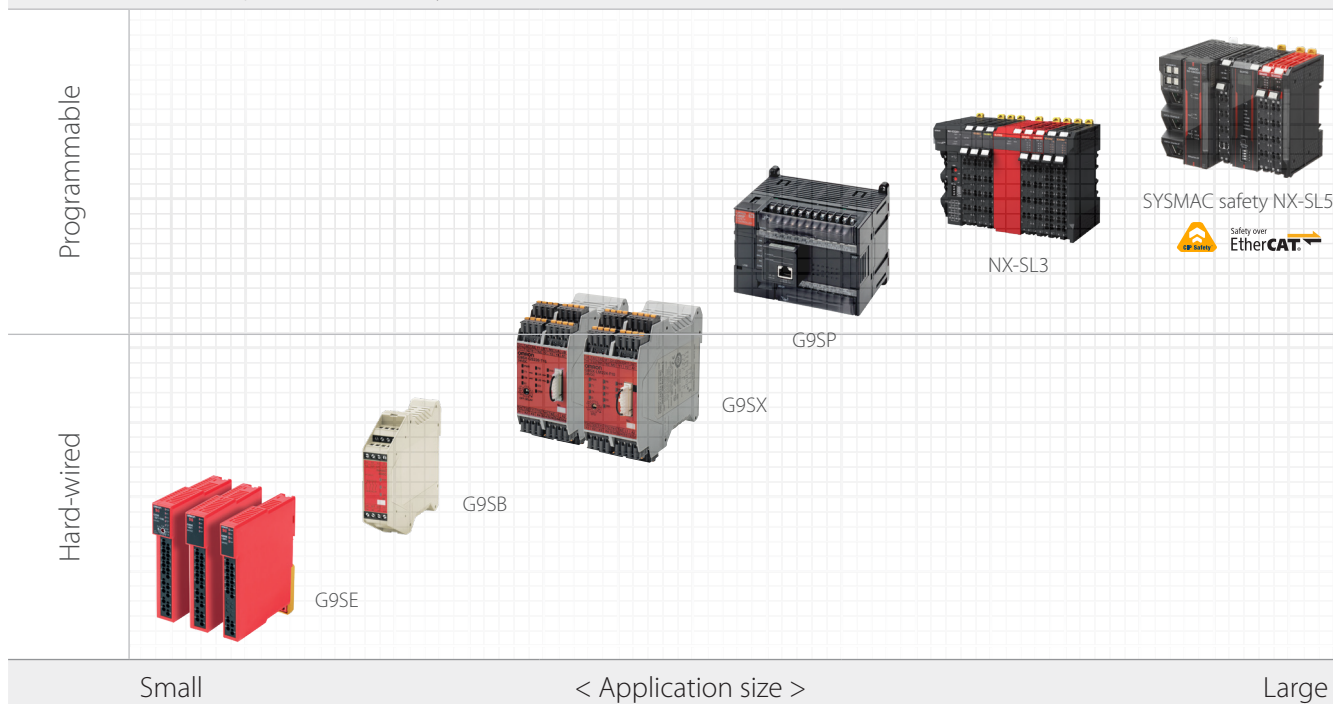
The Omron G9SP is a new family of configurable safety controllers optimized for the packaging, food, automotive components, injection molding and printing industries. Because it isn't hardwired into your system, you can take advantage of the flexibility to easily reconfigure the unit when adding new safety measures. Three different models are available, with a range of I/O lines, so you can choose the one most suitable for your system. Each controller is compatible with the Omron configuration tool, recognized by industry as one of the most user-friendly and accessible on the market.

Omron G9SP: Global safety levels, lower TCO

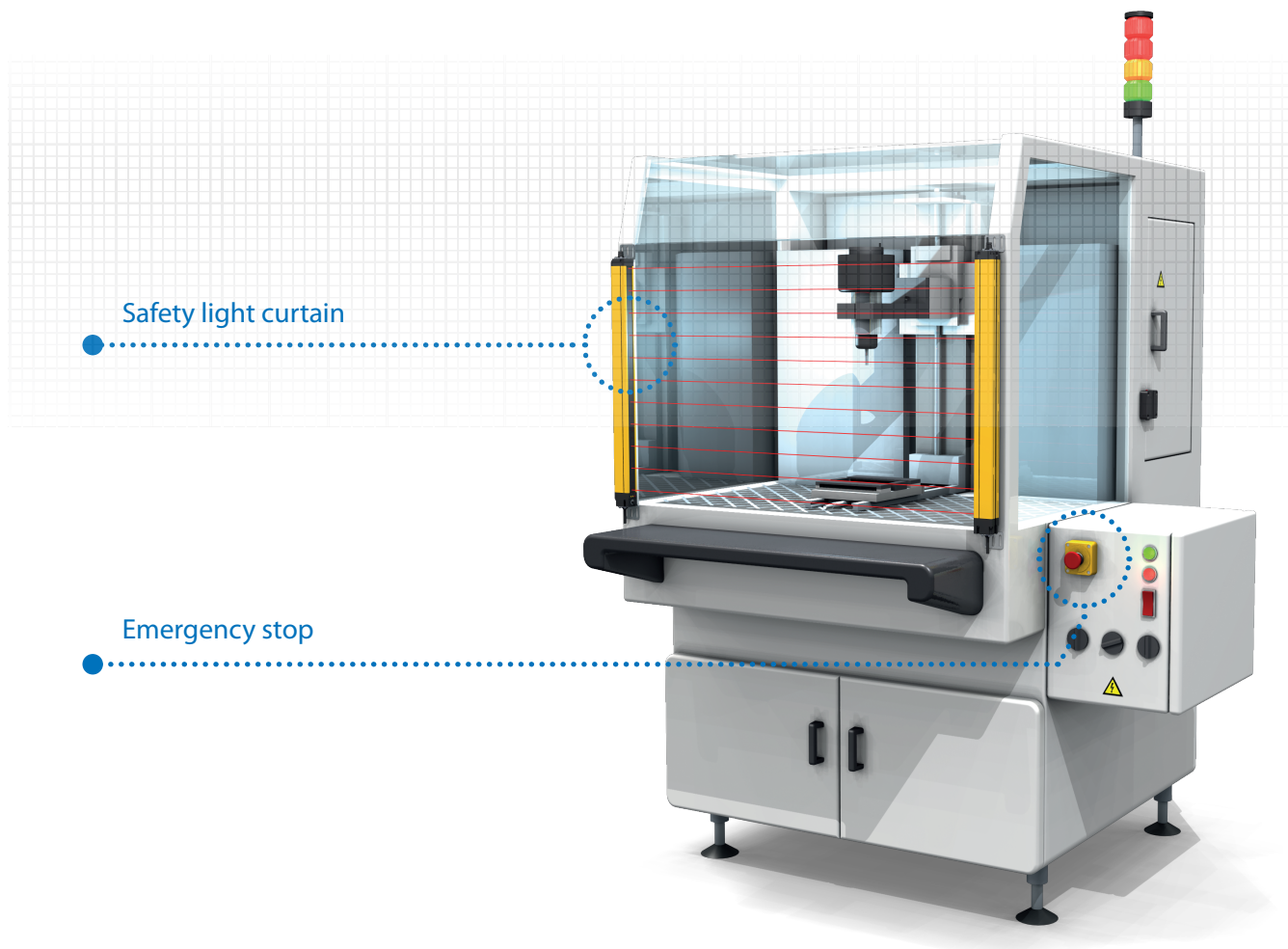
- Configurable unit is ideal for building multiple standalone systems with the same specifications or reconfiguring an existing setup
- Handles function blocks for non-contact switches, single-beam sensors and safety mat inputs
- Faster and easier integration compared to hardwired systems
- Single, user-friendly GUI for configuration, simulation, testing and validation
- Greatly reduced setup time
- EN ISO 13849-1 ready (PLe)

Product Lineup

Hardwired and programmable safety control



Safety as standard



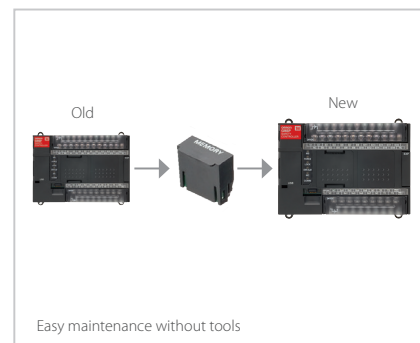
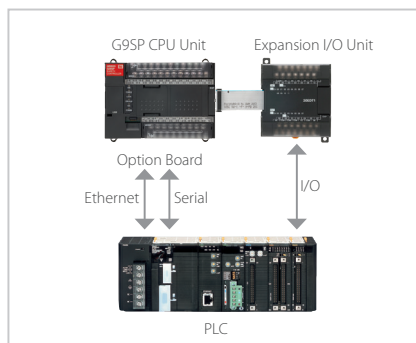
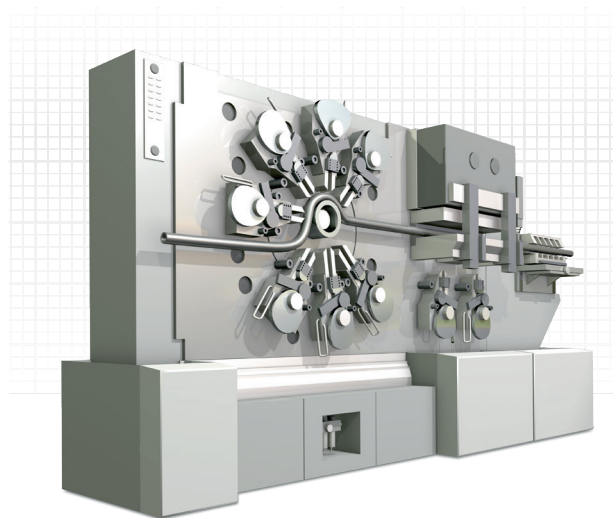
Omron has a complete range of safety solutions, from E-stop, door and limit switches to safety safety light curtains and safety laser scanners. The Omron G9SP is part of the most extensive offering in the industry, enabling Omron to supply a full variety of products to solve a range of applications worldwide.

Because operator safety is paramount in every system, we have invested our expertise in developing a full range of fully compatible products. Our comprehensive selection of safety products help ensure maximum up-time, minimum interruption, and a fully protected workplace.

Reconfigure and reuse for real TCO savings

Modern production lines must be flexible to cater to changing customer needs. This often means being able to change machine setup at short notice for custom jobs or additional requirements. With the Omron G9SP, it couldn't be easier. Function blocks can be redesigned and replaced using the simple GUI, swiftly incorporating any application changes or additions.

Even the most complex controls can be configured with ease. Clear programming guidance is provided for new users, and modification and maintenance have been simplified too. Settings can be saved to memory cassette for off-line diagnostics, and any programming changes can be restored instantly into the Omron G9SP from the same memory cassette.



Safety in automotive component manufacture

A change in machine operation can easily be covered by reconfiguring the application program. Certified function blocks for all kinds of safety functions are already on board and ready to use.

Transparent diagnostics

Connection to PC/PLC via Ethernet makes the G9SP fully accessible. Diagnosis, troubleshooting and program modification is simple, thanks to the USB programming interface and removable memory cassette.

Simple unit replacement

Because the G9SP is a software-based controller, replacement is effortless. All settings, parameters and function blocks can be saved on a PC or stored on the memory cassette for easy transfer from one unit to another.

Increased flexibility means decreased TCO

Modern packaging machines must be flexible to match changing customer needs. With the Omron G9SP, application flexibility is built in. Choose from three standalone safety controller CPU types, then combine with any communication interface or 2 additional standard I/O signals. All G9SP units support direct connections of all kinds of safety sensors, including safety mats, non-contact door monitoring systems and single-beam sensors.

The Omron G9SP can be monitored and configured from a standard control console via Ethernet, serial board or standard I/O lines. For multiple applications of a single configuration, the Omron G9SP memory cassette can be used. This means that system designers only need to program the unit once, and use the memory cassette to install settings into each identical system.



Presence detection

For applications where fixed guarding is inefficient, safety light curtains offer a flexible, easy and simple solution to keep personnel safe. Also, you can avoid unplanned machine stops and process disruptions by using safety functions like muting and blanking while the G9SP monitors the safety system.

Door monitoring

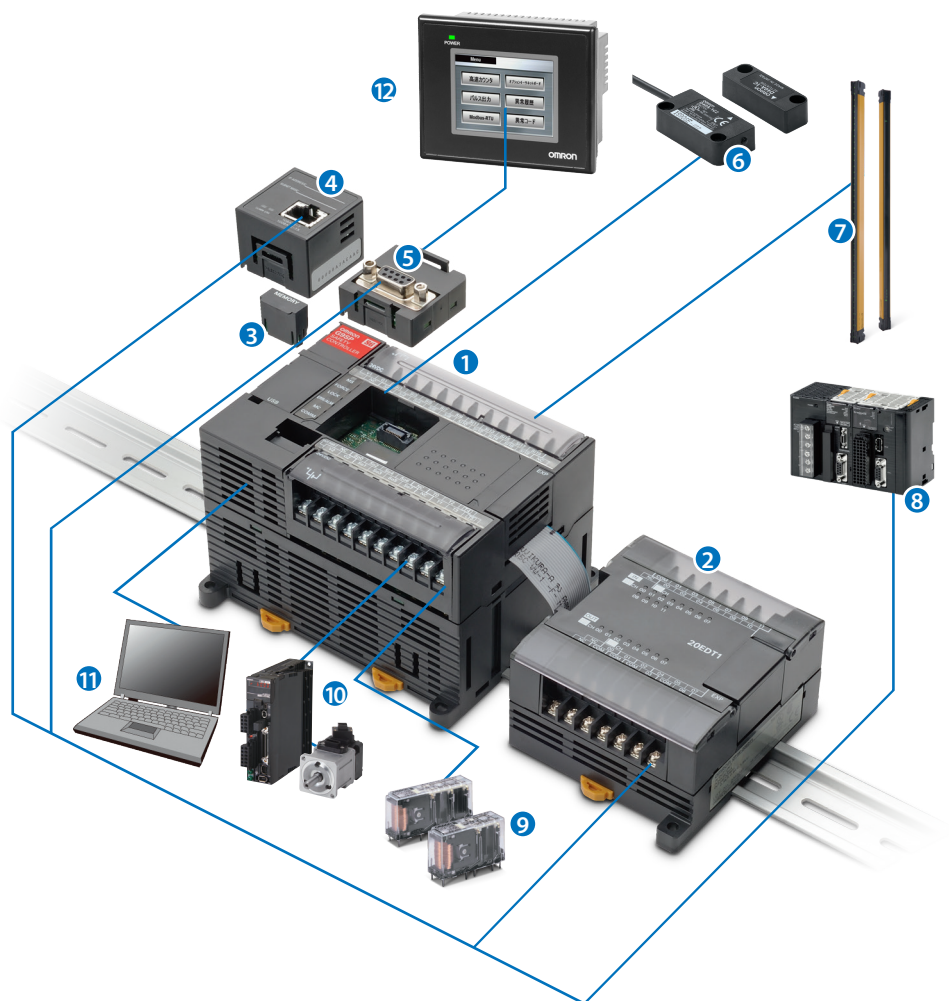
Direct connection of all Omron non-contact door monitoring solutions is supported by the G9SP family for maximum flexibility and minimum effort in set-up and maintenance.

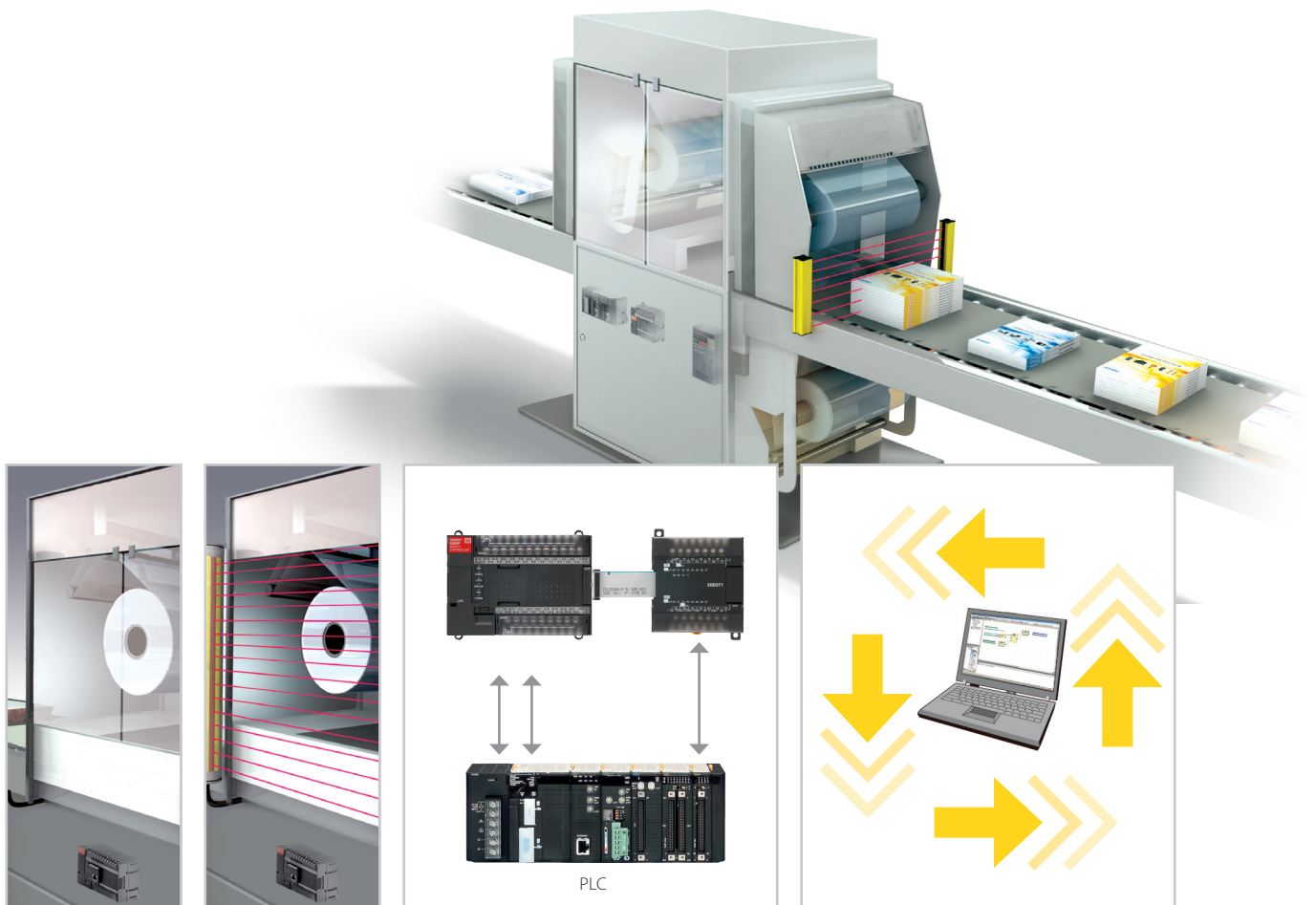
Configurable, flexible, simple: The key to safety

Every safety system relies on correct setup and the most suitable equipment. The features of the Omron G9SP are designed to give your new or existing setup a broader range of benefits.

Configurations matrix

- 1 G9SP safety controller
- 2 Expansion I/O Units
- 3 Memory cassette
- 4 Ethernet option board
- 5 RS-232C option board
- 6 Compact non-contact door switch
- 7 Safety light curtains
- 8 CJ1/PLC
- 9 Relays with forcibly guided contacts
- 10 AC Servomotor/ Drives G5 series
- 11 Configurator
- 12 NB Series programmable terminal





Reconfigurable

With the Omron Configuration Tool, all aspects of input and output to the unit can be defined, simulated, tested and validated with an easy-to-use graphical user interface. If you are building with a make-once/use-many profile, configurations can be copied and applied to all systems. If you are reconfiguring an existing set-up, it's just as simple. When user needs change, the set-up can be adapted quickly and easily to meet those needs.

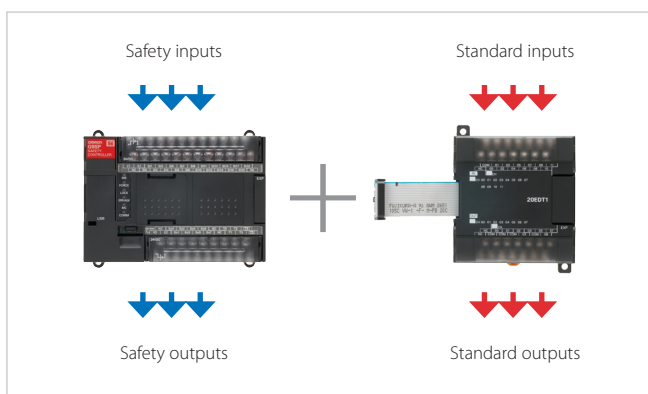
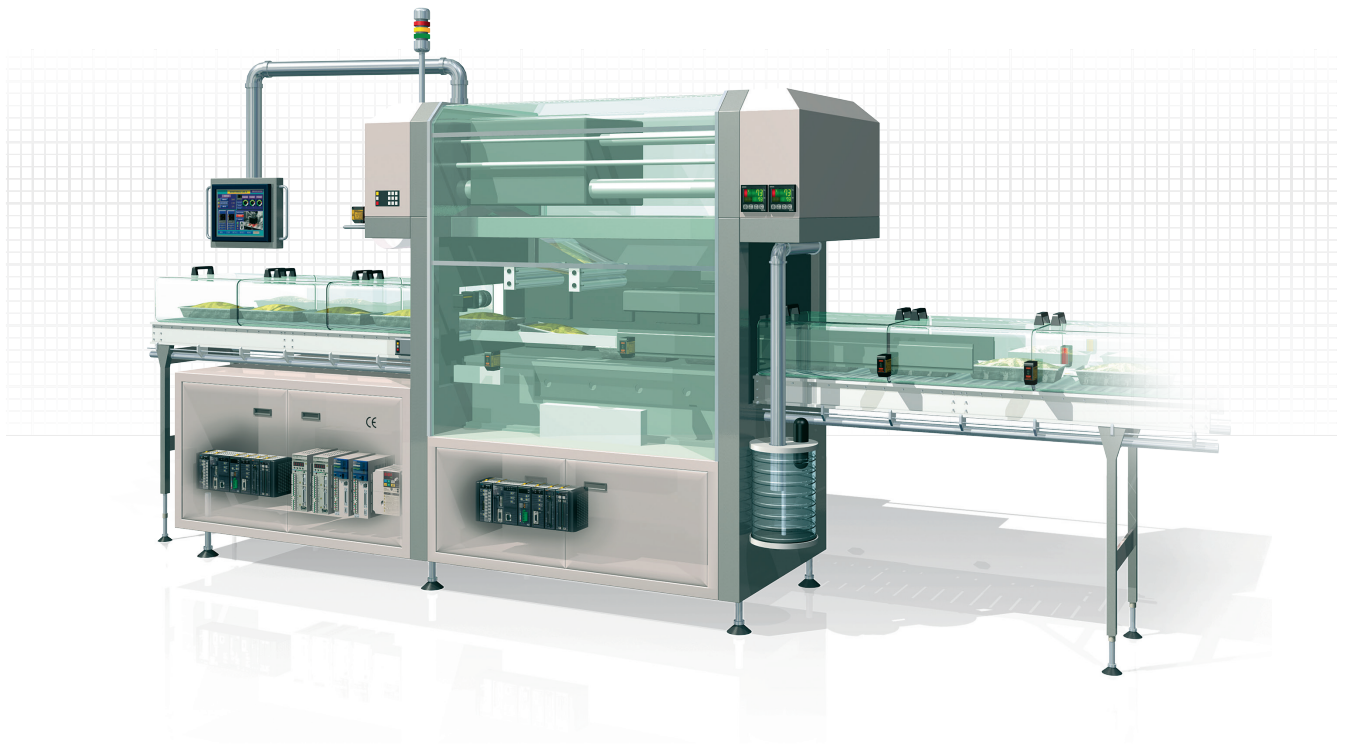
Flexible

Unlike hard-wired safety relays, the Omron G9SP can be reconfigured to multiple purposes. Because it is a solid-state, software driven unit, all aspects of its operation can be reconfigured, with direct connection to non-contact switches or safety mats. Three I/O sizes are available: 20/8, 10/16 and 10/4. Covering the full range of typical small to mid sized systems, the Omron G9SP also comes with optional expansion units for standard I/O signals (12/8 and 0/32). Function blocks up to 128pcs complete this fully flexible range, so you can always be sure of a needs-match solution.

Simple

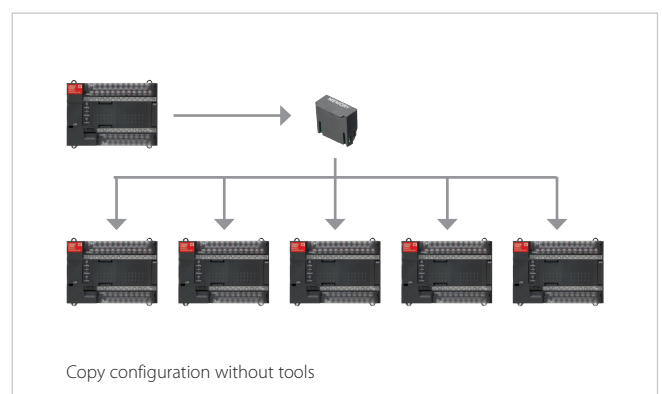
Above all, the Omron G9SP is simple to use and configure. With the Omron Configuration Tool, you can quickly define all inputs, outputs, scope, testing, simulation, validation and operation of your system. On-screen text and icon-driven menus guide the user quickly through all aspects of set-up. Clear alerts and system status give any operator an instant overview at every stage of operation.

Faster and easier commissioning



Standard I/O

The G9SP family offers a range of easily-connected standard I/O units. This instant interface between safety and standard controls can be used to configure standard control signals into the complete safety configuration. Monitoring is simple too, via standard I/O units or Ethernet/serial boards for advanced monitoring.



Memory cassette for fast, simple ease of use

Designing safety systems is no longer the complex task it used to be. As well as a clear and simple programming interface, the Omron G9SP offers the advantage of a memory cassette. Programs can be quickly modified and restored, with no additional effort.



E-Stops, S-Sensors, S-Switches,
S-Enabling, S-Light Curtains,
S-Scanner



S-Relay, S-Compact,
S-Modular, S-Integrated



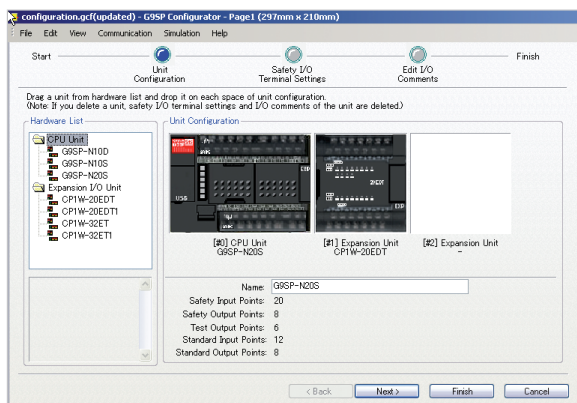
Relays, Contactors,
Servos, Inverters

Configuration made simple

When designing or updating a safety system, configuration used to be one of the most time-consuming tasks. With the Omron G9SP, this is no longer the case.

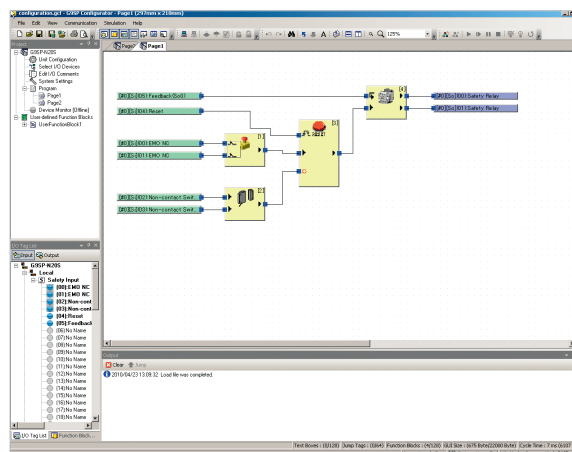
Thanks to a clear and simple user interface, designing your system is easier than ever. Step-by-step instructions within a clear and simple user interface guide you through every aspect of design. A simulation tool allows you to test and correct settings before your system goes live. Then, thanks to user-defined function blocks, you can reuse any aspect of your design in future systems.





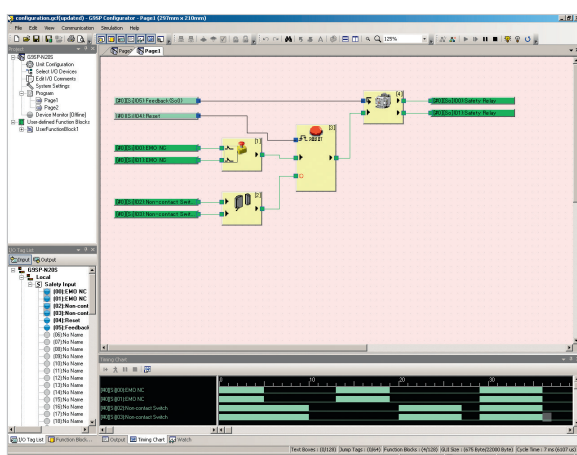
Easy configuration

All safety functions are ready to use in the G9SP. Certified function blocks can be easily selected in the graphical user interface and customized to fit your application.



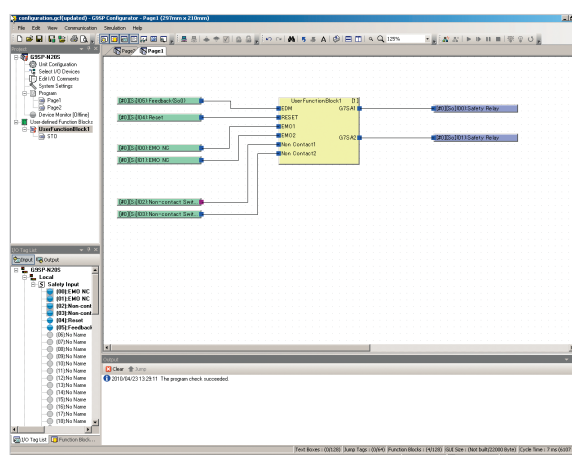
User-defined function blocks

Approved configuration elements such as a tested door monitoring solution can be easily stored as a user defined function block and re-used in future projects. This minimises the time it takes to create a new system configuration.



Simulation

All functions can be tested and simulated in the Configuration Tool, so there's no unnecessary additional workload for the engineer. In addition, on-line diagnosis reduces debug time to a minimum during implementation in the machine control system.



Knowledge-building

Existing configurations are the basis for new projects. The G9SP Configuration Tool supports re-use of existing and proven know-how in safety control, as well as user-defined function blocks. Which means no more repetition of effort, instead a growing library of safety solutions.



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