

# Selection Guide

A collection of various industrial electrical components, including relays, contactors, switches, and terminal blocks, displayed on a white background. The components are arranged in a grid-like fashion, showcasing a wide range of products from small relays to larger contactors and terminal blocks. The components are primarily black and yellow, with some featuring red or blue accents. The background is a clean, white surface with a subtle gradient, highlighting the products.

## INPUT

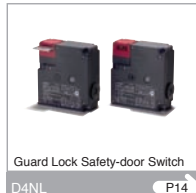
### Guard solutions



#### Safety limit switches



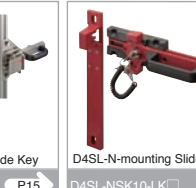
#### Guard lock safety-door switches



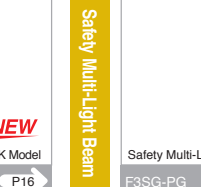
#### Safety-door switches



#### Non-contact door switches



#### Single-beam sensors



### Presence sensing



#### Safety laser scanners



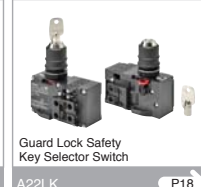
### Emergency stop/enabling devices



#### Emergency stop switches



#### Safety switches



functionalities.  
components that are suitable for the machine's risks.

LOGIC



Safety controllers

Controllers for small applications



Safety Relay Unit  
G9SA

P19



Safety Relay Unit  
G9SB

P19



Safety Relay Unit  
G9SE

P19

Global/partial stopping

Controllers for mid-size applications



Flexible Safety Unit  
G9SX

P19



Controllers for mid-size applications

Programmable



Safety Controller  
G9SP

P21



G9SP Configurator  
WS02-G9SP□□-V□

P21



Controllers for large applications

Safety Controllers/Safety Network Controllers



Communication Control Unit  
NX-CSG

NEW

P20



Safety CPU Unit  
NX-SL5

NEW

P20



Safety I/O Terminal  
GI-SMD/SID

NEW

P20



NX1 CPU Unit  
NX102-CPU

NEW

P20



Safety CPU Unit  
NX-SL5/SL3

NEW

P20



Safety I/O Unit  
NX-SI/SO

P21



EtherCAT Coupler Unit  
NX-ECC

P21



Safety CPU Unit  
NX-SL3

P21



Safety I/O Unit  
NX-SI/SO

P21



Automation Software  
SysmacStudio

SYSMAC-□□

P21



DeviceNet Safety NE1A/NE0A series



Safety Network Controller  
NE1A-SCPU

P22



Safety I/O Terminal  
DST1 series

P22



Network Configurator  
WS02-CFSC1-J/E

P22

OUTPUT



Safety relays

Safety relays



Safety relays  
G7SA

P23



Sockets with Push-In Plus  
technology for G7SA Relays  
P7SA-PU

P23



Safety relays  
G7S-□-E

P23



Safety drives

AC Servomotor/Servo Drive



1S Series  
AC Servo System with Safety Functionality  
R88M-1A□/R88D-1S□-ECT

Available soon

P23



1S Series  
AC Servo System  
R88M-1□/R88D-1S□-ECT

NEW

P23

Inverter



MX2-V1 Multi-function  
Compact Inverter  
3G3MX2-V1

P23



3G3RX2  
High-function General-purpose Inverter  
3G3RX2

NEW

P23

3

# Product Application Examples

## Omron safety components help improve machine safety

1

### Door locking to protect workers

Guard Lock Safety-door Switch

D4SL-N P14

D4NL P14

D4JL P14 / D4BL P14

· Metal or plastic housing



D4BL



D4JL



D4SL-N



D4NL

2

### Door monitoring

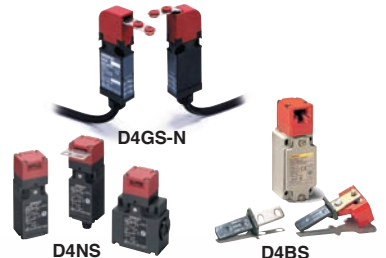
Slim Safety Door Switch

D4GS-N P14

Safety-door Switch

D4NS P14 / D4BS P14

· Metal, plastic, or compact plastic housing



D4NS

D4BS

3

### Sensing contact to prevent crushing

Safety Edge/Edge Controller

SGE P17 / SCCa P17



SCC

SGE

Note: The G9SP Safety Controller can be used instead of the SCC.

4

### Door position and open/close detection

Safety Limit Switch

D4B-□N p.13

Small Safety Limit Switch D4N/D4F p.13

· Metal or plastic housing



D4B-□N



D4N



D4F

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### Worker protection in hazardous areas

Mat for presence sensing

Safety Mat/Controller

UMA P17 / SCC P17



SCC

UMA

6

### Emergency machine stop

Emergency Stop Switch

A165E P17

A22NE-PD/A22NE-P/

A22E P17

· A wide range of accessories



A22NE

A165E



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## Non-contact door monitoring

Compact Non-contact Door Switch

D40A (PLd/Safety Category 3) P15

D40Z (PLe/Safety Category 4) P15



Note: The G9SP/G9SX-NS Controller is required.

8

## Standalone operation

Safety Relay Unit G9SA/G9SE P19

Flexible Safety Unit G9SX P19

Safety Controller G9SP P21

Machine Automation Controller NX102 P21

Safety CPU Unit NX-SL5 P20

Safety I/O Unit NX-SI/SO P20



**NEW**

NX102/  
NX-SL5/SI/SO



9

## Ensuring the safety of openings

Safety Light Curtain

F3SG-SR P16

**NEW**  
F3SG-SR



10

## Advanced safety control of people, machines and goods

All eight safety functions compliant with IEC61800-5-2 are supported

• AC Servo System with Safety Functionality 1S series  
R88M-1A□/R88D-1SAN□-ECT



Available soon

R88M-1A□/  
R88D-1SAN□-ECT

## Safe machine shutdown

Safety function: STO

• AC Servo System 1S Series  
R88M-1□/  
R88D-1SN□-ECT

• MX2-V1 Multi-function Compact Inverter  
3G3MX2-V1

• High-function

General-purpose Inverter 3G3RX2



**NEW**

R88M-1□/R88D-1SN□-ECT

**NEW**

3G3RX2

# Product Application Examples

## Omron safety components help protect workers at manufacturing sites

1



**Intrusion detection for frequently accessed areas or wide openings**

Safety Light Curtain  
F3SG-SR **P16**

**NEW**  
F3SG-SR

2

**Prevent collisions and trapping by detecting human beings and contacts**

Safety Laser Scanner

OS32C **P17**

Safety Edge/  
Edge Controller

SGE/SCC \*

**P17**

OS32C

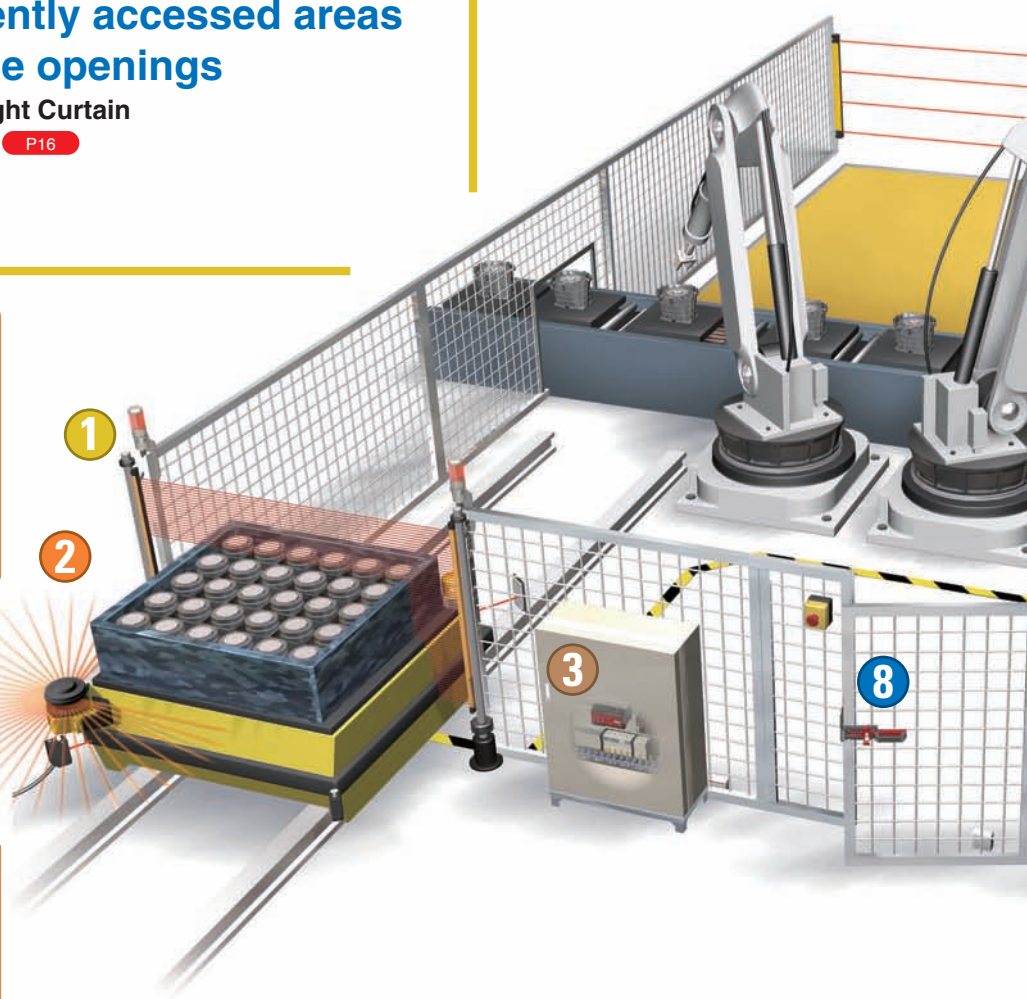


SCC



SGE

\* The G9SP Safety Controller can be used instead of the SCC.



3

**Expanding safety I/O through networks**

NX Series Communication Control Unit NX-CSG **P20**

Safety CPU Unit NX-SL5 **P20**

Safety I/O Terminal GI-SMD/SID **P20**



**NEW**

NX-CSG  
NX-SL5/SI/SO



**NEW**

GI-SMD/SID

4

## Invasion detection around the equipment

Safety Multi-Light Beam

F3SG-PG P16

**NEW**  
F3SG-PG



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## Emergency stop of the system

Emergency Stop Switch A22NE P17

· Yellow control box for simple installation



A22NE-M-P□  
Emergency Stop Switch  
with Integrated Control Box

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## Worker protection in hazardous areas

Safety Laser Scanner OS32C P17

Safety Mat/Controller

UMA P17 / SCC P17

· Mat for presence sensing



OS32C



SCC

UMA

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## Emergency stop during teaching in hazardous areas

Programmable Terminal NSH5

Enabling Grip Switch A4EG P18

Enabling Switch A4E P18

· Horizontal or vertical mounting



A4EG



A4E



NSH5

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## Door open/close detection and locking

Safety-door Hinge Switch D4NH P14

Guard Lock Safety-door Switch

D4SL-N P14 / D4NL P14 / D4JL P14

· Hinge switch for open/close detection  
· Guard lock switch for locking doors



D4NH



D4NL



D4SL-N



D4JL



D4SL-NSK10-LK□



D4NS-SK30



D4JL-SK40



# Safety Application Examples

## Applications by industry

## 1. Automotive

1

### Worker protection in hazardous areas

Laser scanner for presence sensing

Safety Laser Scanner  
OS32C P17



2

### Emergency stop during teaching in hazardous areas

Programmable Terminal  
NSH5  
Enabling Grip Switch  
A4EG p.18



3

### Invasion detection and presence detection in harsh environments

Safety Light Curtain

F3SG-SR P16

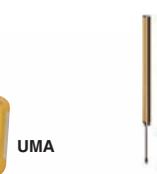
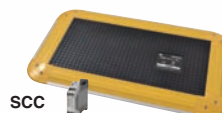
Cutting oil resistant Robust type IP67G

F3SG-RR P16

Safety Mat/Controller

UMA P17 /

SCC P17



Cutting oil resistant Robust type

4

### For preventing containment in hazardous areas

Guard Lock Safety-door Switch D4JL p.14



D4JL

D4JL-mounting Slide Key  
D4JL-SK40 p.15

Rear release button to unlock  
Unlock from inside to get out of hazardous area



5

### Programming for safety control

NX Series Communication  
Control Unit NX-CSG P20

Safety CPU Unit NX-SL5 P20

Safety I/O Terminal  
GI-SMD/SID P20



**NEW**  
GI-SMD/SID



## Applications by industry

## 2. Machine tool

1

### Door position and open/close detection

Safety Limit Switch D4B-□N P13

Small Safety Limit Switch

D4N P13 /D4F P13

· Metal or plastic housing

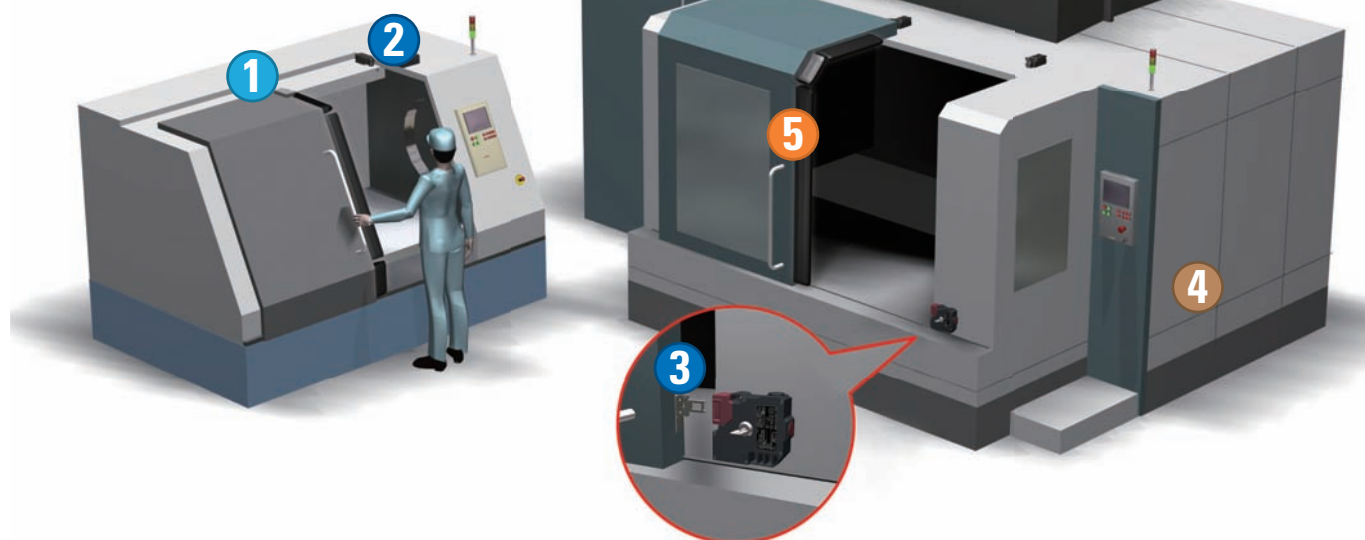


2

### For preventing access to inertial hazards

Guard Lock Safety-door Switch

D4SL-N/D4NL P14



3

### For preventing containment inside the equipment

Guard Lock Safety-door Switch

D4JL P14



Trapped key to prevent getting trapped

4

### Standalone operation

Flexible Safety Unit

G9SX P19

Safety Controller G9SP P21

Machine Automation Controller

NX102 P20

Safety CPU Unit NX-SL5 P20

Safety I/O Unit NX-SI/SO P20



5

### For preventing containment inside the equipment

Safety Edge/Edge Controller

SGE P17

SCC P17



# Safety Application Examples

## Applications by industry 3. FPD manufacturing equipment

1

### Intrusion detection for wide openings

Safety Light Curtain

F3SG-SR P16

Safety Light Curtain

F3SJ-A P16



2

### To the control of entry and exit

Guard Lock Safety-door Switch

D4SL-N P14

D4SL-N-mounting Slide Key

D4SL-NSK10-LK P15



D4SL-N  
D4SL-NSK10-LK



3

### When it is necessary to divide the stopping area by area

Safety Controller G9SP P21

Machine Automation Controller NX102 P20

Safety CPU Unit NX-SL5 P20

Safety I/O Unit NX-SI/SO P20



G9SP



**NEW**  
NX102/  
NX-SL5/SI/SO

4

### To prevent unintended emergency stop

E-stop Shroud A22Z-EG Series P17

- Minimizes accidental activation, preventing operating errors
- SEMI S2-compliant E-stop shroud with EMO/EMS legend plate available



A22Z-EG1-W



A22Z-EG1



A22Z-EG2  
(recessed shroud)



A22E-EMO



A22E-EMS

Note: These products can be used only for semiconductor manufacturing equipment. Do not use for other applications.

## Applications by industry

## 4. Semiconductor manufacturing equipment

1

### To a small opening

Safety Light Curtain

F3SG-SR P16

Safety Light Curtain

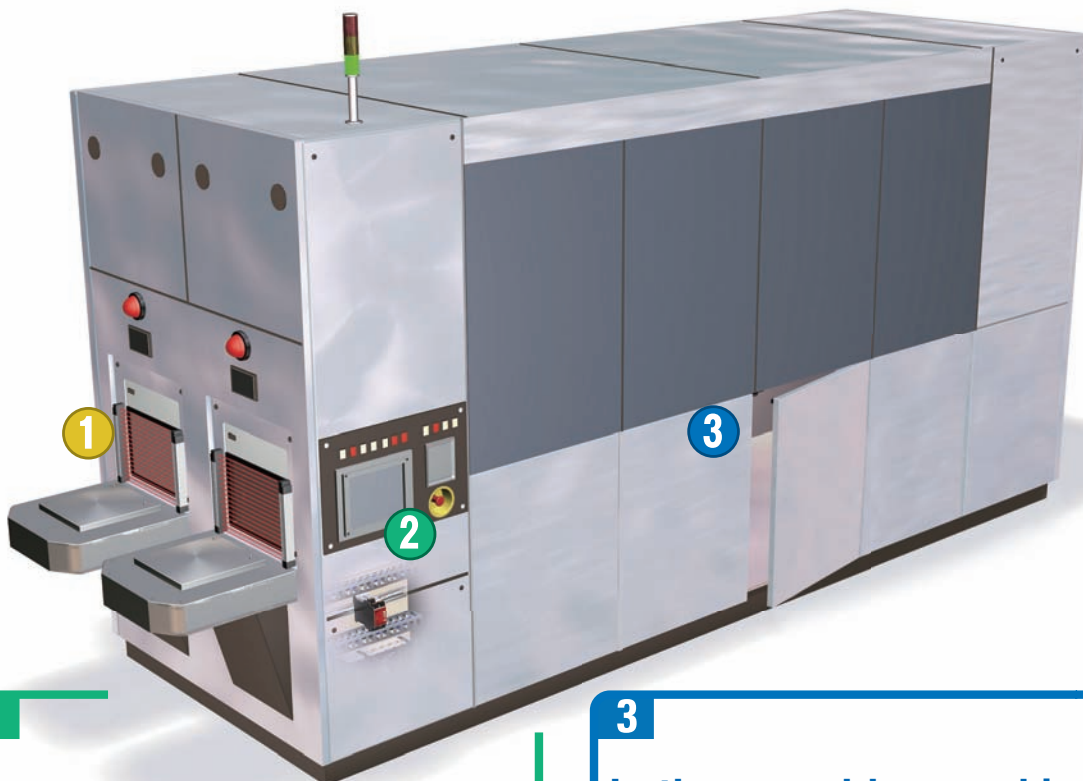
F3SJ-A P16



**NEW**  
F3SG-SR



F3SJ-A



2

### To prevent unintended emergency stop

E-stop Shroud

A22Z-EG Series P17

- Minimizes accidental activation, preventing operating errors
- SEMI compliant



A22Z-EG1-W



A22Z-EG1



A22Z-EG2  
(recessed shroud)

Note: These products can be used only for semiconductor manufacturing equipment. Do not use for other applications.

3

### In the movable guard in the clean room

Particle free

Compact Non-contact Door Switch

D40A (PLd/Safety Category 3) P15

D40Z (PLe/Safety Category 4) P15



D40A



D40Z

Note: The G9SP/G9SX-NS Controller is required.



# Safety Application Examples

## Applications by industry

## 5. Food production equipment



1

### Protection in wash-down environments

#### Safety Light Curtain F3SG-SR P16

Applicable to IP67G for waterproof and oil resistance

•IP69K model

#### F3SG-SR-K

The IP69K model also supports high-pressure cleaning



Waterproof  
IP69K

ISO 20653

**NEW**

F3SG-SR-K

•IP69K model

#### Safety Light Curtain F3SJ-A P16

•Water-resistant Case

#### F39-EJ□□□□-L/-D

(For F3SJ-A)

IP67 compliant  
environment-resistant case

F3SJ-A,

F39-EJ□□□□-L/-D

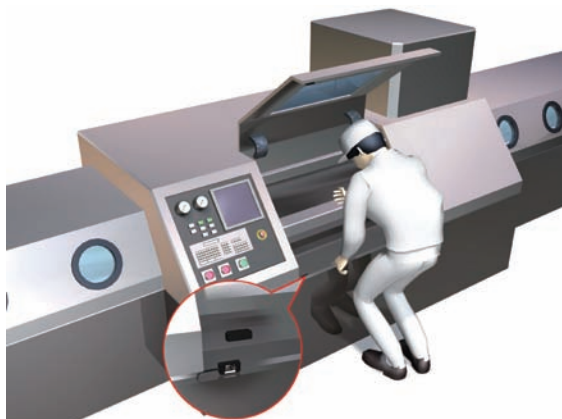
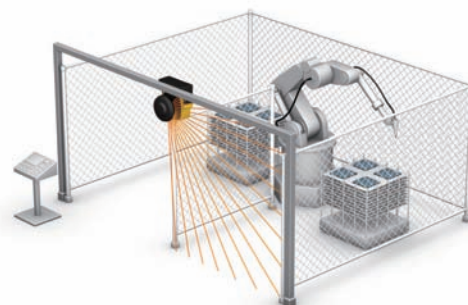


2

### In the selection of the guarded area of the opening

#### Safety Laser Scanner OS32C P17

OS32C



3

### Non-contact door detection for unstable doors in wash-down environments

#### Compact Non-contact Door Switch

D40A (PLd/Safety Category 3) P15

D40Z (PLe/Safety Category 4) P15



形D40A







形D40Z

Note: The G9SP/G9SX-NS Controller is required.

## Product Lineup

### ■ Safety limit switches

Model	Appearance	Features
<b>D4N</b> Small Safety Limit Switch WEB		<ul style="list-style-type: none"> <li>● Lineup with up to 3 contacts: 1NC/1NO, 2NC, 2NC/1NO, 3NC, 1NC/1NO MBB and 2NC/1NO MBB</li> <li>● M12 connector type for quick wiring and easy replacement</li> <li>● For standard loads and micro loads</li> </ul>
<b>D4F</b> Small Safety Limit Switch WEB		<ul style="list-style-type: none"> <li>● An incredibly small limit switch with a direct opening mechanism (four-contact construction model).</li> <li>● High sensitivity</li> <li>● 2 and 4 contact types</li> <li>● IP67 protection</li> </ul>
<b>D4B-□N</b> Safety Limit Switch WEB		<ul style="list-style-type: none"> <li>● Direct opening mechanism (NC contacts only) opens contacts when faults occur</li> <li>● Indicates applicable operating zone</li> <li>● Push-button switching to control left and right motion</li> <li>● IP67 protection</li> </ul>
<b>D4N-□R</b> Pull-reset Safety Limit Switch WEB		<ul style="list-style-type: none"> <li>● Lineup with up to 3 contacts: 1NC/1NO, 2NC, 2NC/1NO and 3NC</li> <li>● M12 connector type for quick wiring and easy replacement</li> <li>● For standard loads and micro loads</li> </ul>

WEB Mark...Refer to your local OMRON website


# Product Lineup

## ■ Safety door switches

Model	Appearance	Features
<b>D4NS</b> Safety-door Switch WEB		<ul style="list-style-type: none"> <li>Lineup with up to 3 contacts: 1NC/1NO, 2NC, 2NC/1NO and 3NC</li> <li>M12 connector type for quick wiring and easy replacement</li> <li>For standard loads and micro loads</li> <li>Metal head types available</li> </ul>
<b>D4GS-N</b> Slim Safety Door Switch WEB		<ul style="list-style-type: none"> <li>Slim housing only 17 mm wide (3 contacts)</li> <li>Reversible design allows front or rear mounting</li> <li>Lineup with up to 3 contacts: 1NC/1NO, 2NC, 2NC/1NO and 3NC</li> <li>IP67 protection</li> </ul>
<b>D4BS</b> Safety-door Switch WEB		<ul style="list-style-type: none"> <li>Direct opening mechanism opens switch contact when protective cover is opened</li> <li>Wide temperature range: -40 to 80°C</li> <li>IP67 rated switch box (EN 60947-5-1)</li> </ul>
<b>D4SL-N</b> Guard Lock Safety-door Switch Cat. No. C146		<ul style="list-style-type: none"> <li>Reduced wiring time with one-touch attachment and removal</li> <li>4, 5 and 6 contact types</li> <li>Key holding force: 1,300 N</li> <li>Turning key insertion point without detaching head</li> <li>Drive solenoid directly from the controller</li> </ul>
<b>D4JL</b> Guard Lock Safety-door Switch WEB		<ul style="list-style-type: none"> <li>Strong key holding force: 3,000 N (plastic housing)</li> <li>2 safety circuits and 2 monitor contacts for various monitoring patterns</li> <li>For standard loads and micro loads</li> <li>Trapped key and rear release button prevent workers from getting trapped inside hazardous areas</li> <li>IP67 protection</li> </ul>
<b>D4NL</b> Guard Lock Safety-door Switch WEB		<ul style="list-style-type: none"> <li>Built-in switches with multiple-contact construction are available.</li> <li>Key holding force: 1,300N</li> <li>For standard loads and micro loads</li> <li>Various conduit types, e.g. M20</li> <li>IP67 protection</li> </ul>
<b>D4BL</b> Guard Lock Safety-door Switch WEB		<ul style="list-style-type: none"> <li>Automatic mechanical locking by inserting operation key</li> <li>Release by applying voltage to solenoid</li> <li>Auxiliary release key for emergency unlock</li> <li>IP67 protection</li> </ul>
<b>D4NH</b> Safety-door Hinge Switch WEB		<ul style="list-style-type: none"> <li>Lineup with up to 3 contacts: 1NC/1NO, 2NC, 2NC/1NO, 3NC, 1NC/1NO MBB and 2NC/1NO MBB</li> <li>M12 connector type for quick wiring and easy replacement</li> <li>For standard loads and micro loads</li> </ul>

WEB Mark...Refer to your local OMRON website












Model	Appearance	Features
<b>D40A</b> Compact Non-contact Door Switch Cat. No. C140		<ul style="list-style-type: none"> <li>● Stable operation reduces controller errors caused by unstable doors</li> <li>● Connect up to 30 non-contact door switches with LED to one controller</li> <li>● Reversible switch provides flexibility in installation</li> <li>● Two color LED indicator for easy maintenance</li> <li>● PLd/Safety Category 3</li> </ul>
<b>D40Z</b> Compact Non-contact Door Switch Cat. No. C145		<ul style="list-style-type: none"> <li>● Conforms to ISO 13849-1 (PLe/Safety Category 4)</li> <li>● Switch's LED indication patterns for easy troubleshooting</li> </ul>
<b>D4SL-NSK10-LK</b> D4SL-N-mounting Slide Key Cat. No. C146		<ul style="list-style-type: none"> <li>● Lockout key prevents workers from getting trapped inside hazardous areas</li> <li>● Vertical D4SL-N Guard Lock Safety-door Switch can be easily mounted on a 40 x 40 mm aluminum frame</li> <li>● Plastic housing suitable for lightweight doors</li> </ul>
<b>D4NS-SK</b> <b>D4JL-SK</b> D4NS/D4JL-mounting Slide Key WEB		<ul style="list-style-type: none"> <li>● Door switch attachments for doors in various sizes from 20 x 20 mm aluminum frames to large guards around robots</li> <li>● Shortens design time for door switch mounting part</li> </ul>

WEB Mark...Refer to your local OMRON website

# Product Lineup

## ■ Safety sensors






Model	Appearance	Features
<b>F3SG-SR</b> Safety Light Curtain Cat. No. F105	 <b>NEW</b>	<ul style="list-style-type: none"> <li>● Conforms to major international standards</li> <li>● Environmental resistance and rugged structure for use in any environment (IP67, IP67G *)</li> <li>● A broad line-up, from finger protection to body protection</li> <li>● Flexible height model for easy integration into machines and lines</li> <li>● For diverse applications, from simple protection to data utilization</li> </ul>
<b>F3SG-PG</b> Safety Multi-Light Beam Cat. No. F105		
<b>F3SG-SR-K</b> Safety Light Curtain IP69K model Cat. No. F105	 <b>NEW</b>	<ul style="list-style-type: none"> <li>● IP69K (ISO 20653) protection for high-pressure wash-down applications</li> <li>● Offers the same specifications and functionality as F3SG-4SRB□□ standard model. Detection capability of 14- and 25-mm dia.</li> <li>● Conforms to major international standards</li> </ul>
<b>F3SG-RR</b> Safety Light Curtain (Robust type) Cat. No. F094		<ul style="list-style-type: none"> <li>● Mechanical seal structure prevents cutting oil from getting inside</li> <li>● Special materials and cables significantly enhanced oil resistance</li> <li>● Rugged and compact housing. Perfect fit installation</li> <li>● IP67G (JIS C 0920 Annex 1) rated</li> </ul>
<b>F3SG-RA/RE</b> Safety Light Curtain (Advanced type, Easy type) Cat. No. F094		<b>F3SG-RA (Advanced type)</b> <ul style="list-style-type: none"> <li>● Rugged and compact</li> <li>● New muting function to increase both productivity and safety</li> <li>● All models designed for global use. PNP/NPN selection by DIP switch</li> <li>● Conforms to major international standards including Chinese standard GB 4584</li> </ul> <b>F3SG-RE (Easy type)</b> <ul style="list-style-type: none"> <li>● Provides simple safety functions - saving TCO by reducing errors</li> <li>● Simple wiring with only 4 wires</li> <li>● Fast response time of 5 ms</li> </ul>
<b>F3SJ-A</b> Safety Light Curtain (ADVANCED Type) Cat. No. F074		<ul style="list-style-type: none"> <li>● Muting and blanking functions available</li> <li>● Series connection up to 4 sets</li> <li>● Multiple versions available: Finger/hand/hand and arm/leg and body protection</li> <li>● Protective heights from 245 mm to 2,500 mm</li> <li>● Mounting bracket included</li> </ul>
<b>F3SJ-B/E</b> Safety Light Curtain (BASIC Type, Easy type) Cat. No. F074		<b>F3SJ-B (BASIC Type)</b> <ul style="list-style-type: none"> <li>● Series connection up to three sets. Fits a U-shaped or L-shaped pattern</li> <li>● Muting function to temporarily disable the safety light curtain when a workpiece passes through. LED indicators for checking wiring status</li> </ul> <b>F3SJ-E (EASY Type)</b> <ul style="list-style-type: none"> <li>● Simple and affordable hand protection</li> <li>● 1/2 the mounting time (Comparison with existing Omron products)</li> </ul>
<b>E3ZS</b> Single-beam Safety Sensor WEB		<ul style="list-style-type: none"> <li>● Complies with EN and IEC standards</li> <li>● Sensing distance: 3 m</li> <li>● Used together with G9SP Safety Controller</li> <li>● For hazardous gaps in machines</li> </ul>
<b>F3W-MA</b> Smart Muting Actuator Cat. No. F094		<ul style="list-style-type: none"> <li>● Integrated sensor system utilizing multiplebeam sensor technology</li> <li>● Configure muting systems in combination with safety light curtains</li> <li>● Chattering/void space prevention mode to prevent impact of small object holes</li> </ul>
<b>F3SP-B1P</b> Control Unit for safety sensors WEB		<ul style="list-style-type: none"> <li>● Control unit for F3SG-RA/F3SJ-B/F3SJ-A Safety Light Curtain</li> <li>● Quick connection to light curtains using double-end connector cables</li> <li>● Easy connection to light curtains (Use Double-Ended Cables)</li> </ul> <p>Note: The F3SP-B1P in combination with F3SG-RA/F3SJ-B/F3SJ-A conforms to standards.</p>

WEB Mark...Refer to your local OMRON website

## ■ Presence sensing devices

Model	Appearance	Features
<b>OS32C</b> Safety Laser Scanner Cat. No. Z298		<ul style="list-style-type: none"> <li>● Small size (104.5 mm) and lightweight (1.3 kg)</li> <li>● Safety zone up to 4 m, warning zone up to 15 m, and detection angle up to 270°</li> <li>● Low-power consumption (5 W) extends operation time of battery powered systems like AGVs</li> <li>● Monitor operating status and measurement data over EtherNet/IP™</li> </ul>
<b>UMA/SCC</b> Safety Mat/Controller Cat. No. A250		<ul style="list-style-type: none"> <li>● 1 and 2 cable types</li> <li>● Meets EN ISO 13849-1 (PLd/Safety Category 3) and EN ISO 13856-1</li> <li>● Can be used with MC3 Safety Mat Controller or NX Safety Controller</li> <li>● Complies with North American safety standards including ANSI/RIA 15.06</li> <li>● A wide variety of mat sizes and trims</li> </ul>
<b>SGE/SCC</b> Safety Edge/Edge Controller Cat. No. F088		<ul style="list-style-type: none"> <li>● SGE Safety Edge in combination with SCC Edge Controller meets Safety Category 3 when built-in relays directly block hazards</li> <li>● Simple one-unit structure integrating sensor and cover</li> <li>● Side force resistant</li> <li>● Various sensor lengths (150 to 6,100 mm) and heights (34 to 80 mm)</li> <li>● Compliant with EN1760-2 (Safety edge standard)</li> </ul>

## ■ Emergency stop switches

Model	Appearance	Features
<b>A165E</b> Emergency Stop Switch (16-dia.) WEB		<ul style="list-style-type: none"> <li>● Direct opening mechanism opens contacts in emergencies</li> <li>● Safety lock mechanism prevents misuse</li> <li>● Modular construction; easy installation using snap-in switch</li> <li>● 3 contacts built into a single block (A165E-U)</li> </ul>
<b>A22NE-PD</b> Emergency Stop Pushbutton Switch (22-dia. or 25-dia.) Cat. No. A263	 <b>NEW</b>	<b>Push-in Plus Terminal Block Model with Lock-lever-linked Contact Function</b> <ul style="list-style-type: none"> <li>● Lock-lever-linked Contact function detects improper installation of switch unit</li> <li>● Compact design and changed wiring direction reduce control panel size</li> <li>● Push-in plus terminals provide vibration resistant connections, reducing maintenance work</li> <li>● Lineup with up to 4 contacts</li> <li>● IP65 oil-resistant (non-lighted)/IP65 (lighted)/IP69K for high-temperature, high-pressure washdown (pull-reset)</li> </ul>
<b>A22NE-P</b> Emergency Stop Pushbutton Switch (22-dia. or 25-dia.) Cat. No. A263		<b>Push-in Plus Terminal Block Model</b> <ul style="list-style-type: none"> <li>● Compact design and changed wiring direction reduce control panel size</li> <li>● Push-in plus terminals provide vibration resistant connections, reducing maintenance work</li> <li>● Lock lever for easy mounting</li> <li>● Lineup with up to 6 contacts</li> <li>● P65 oil-resistant (non-lighted)/IP65 (lighted)/IP69K for high-temperature, high-pressure washdown (pull-reset)</li> </ul>
<b>A22E</b> Emergency Stop Pushbutton Switch (22-dia. or 25-dia.) Cat. No. A263		<b>Screw Terminal Block Model</b> <ul style="list-style-type: none"> <li>● Increased wiring efficiency with 3-row mounting of switch blocks (Non-lighted model: 3 switch blocks can be mounted for multiple contacts)</li> <li>● Round or forked crimp terminals can be used for installation</li> <li>● IP65 oil-resistant (non-lighted)/IP65 (lighted)</li> <li>● Bundled lock plate fixes lever to prevent operation unit and switch blocks from separating</li> </ul>
<b>A22Z-EG Series</b> E-stop Shroud Cat. No. A263		<ul style="list-style-type: none"> <li>● Minimizes accidental activation, preventing operating errors</li> <li>● A22Z-EG1: EMERGENCY OFF legend plate included</li> <li>● A22Z-EG2: recessed shroud</li> <li>● Spacers can be used to adjust amount of protrusion</li> </ul>

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# Product Lineup

## ■ Enabling devices

Model	Appearance	Features
<b>A4EG</b> Enabling Grip Switch WEB		<ul style="list-style-type: none"> <li>● 3-position switch with clicking feel</li> <li>● Configure safety circuits easily by combining with G9SX-GS Safety Guard Switching Unit</li> <li>● Models with emergency stop switch or momentary operation switch available</li> <li>● Optional holding key (sold separately) to change modes</li> </ul>
<b>A4E</b> Enabling Switch WEB		<ul style="list-style-type: none"> <li>● 3-position switch with clicking feel</li> <li>● Complies with American national standard ANSI/RIA R15.06-1999</li> <li>● Can be mounted in two directions</li> </ul>
<b>A22LK</b> Guard Lock Safety Key Selector Switch WEB		<ul style="list-style-type: none"> <li>● Secure equipment activation during maintenance</li> <li>● Guard lock of operation unit prevents misuse</li> <li>● The key has the same shape as the following key               <ul style="list-style-type: none"> <li>- Key of A22TK Safety Key Selector Switch</li> <li>- Trapped key of D4JL Guard Lock Safety-door Switch</li> <li>- Lockout key of D4SL-NSK10-LK Slide Key</li> </ul> </li> </ul>
<b>A22TK</b> Safety Key Selector Switch Cat. No. A189		<ul style="list-style-type: none"> <li>● Secure equipment activation during maintenance</li> <li>● 30 key types prevent locking devices from being easily disabled</li> <li>● Key has the same shape as trapped key of D4JL Guard Lock Safety-door Switch and lockout key of D4SL-NSK10-LK Slide Key. These units can be combined to improve safety (Specify the same key type)</li> <li>● Common to switch blocks of A22E Emergency Stop Switch (Non-lighted model only)</li> </ul>






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## ■ Safety relay units

Model	Appearance	Features
<b>G9SA</b> <b>Safety Relay Unit</b> <a href="#">WEB</a>		<ul style="list-style-type: none"> <li>● Compact design</li> <li>● Two-hand controller available</li> <li>● Simple expansion connection</li> <li>● Fast response time: 10 ms</li> <li>● Operating status indicators</li> <li>● Finger protection construction</li> <li>● Modules with 3 or 5 safety contacts and OFF-delay timing</li> </ul>
<b>G9SB</b> <b>Safety Relay Unit</b> <a href="#">WEB</a>		<ul style="list-style-type: none"> <li>● 17.5 mm- and 22.5 mm-wide housing</li> <li>● Connectable with safety area sensors</li> <li>● Fast response time: 10 ms</li> <li>● Operating status indicators</li> <li>● Finger protection construction</li> </ul>
<b>G9SE</b> <b>Safety Relay Unit</b> Cat. No. J198		<ul style="list-style-type: none"> <li>● 17.5 or 22.5 mm width to save mounting space</li> <li>● Simple wiring using Push-In Plus terminal block</li> <li>● Easy maintenance with status indicators</li> <li>● One unit for various safety devices, from contact input to PNP input</li> </ul>

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## ■ Flexible safety units G9SX Series


Model	Appearance	Features
<b>G9SX</b> <b>Flexible Safety Unit</b> <a href="#">WEB</a>		<ul style="list-style-type: none"> <li>● Logical "AND" function to implement partial/global stopping of a machine</li> <li>● Solid-state outputs (excluding expansion units)</li> <li>● Clear LED diagnosis of all inputs and outputs</li> </ul>
<b>G9SX-NS</b> <b>Non-Contact Door Switch Controller</b> Cat. No. C140		<ul style="list-style-type: none"> <li>● Connect up to 30 D40A/D40Z Compact Non-Contact Door Switches to one controller</li> <li>● Logical "AND" function to implement partial or global stopping of a machine</li> <li>● No programming required</li> <li>● Both non-contact door switches and conventional key-type safety-door switches can be input to G9SX-NSA</li> </ul>
<b>G9SX-GS</b> <b>Safety Guard Switching Unit</b> <a href="#">WEB</a>		<ul style="list-style-type: none"> <li>● Two operation modes to support auto switching and manual switching</li> <li>● External indicator outputs to indicate switching status of two safety input devices</li> <li>● Auxiliary outputs for monitoring of safety inputs, safety outputs, and errors</li> <li>● Clear LED diagnosis of all inputs and outputs</li> <li>● Clear and transparent segmentation of safety functions by use of unique logical "AND" connection</li> </ul>
<b>G9SX-SM</b> <b>Standstill Monitoring Unit</b> <a href="#">WEB</a>		<ul style="list-style-type: none"> <li>● Based on Back EMF operation</li> <li>● Ready to use - covering all standard applications without additional setup</li> <li>● User Configuration for fine-tuning of sensitivity</li> <li>● Clear LED diagnosis of all inputs and outputs</li> <li>● Up to Cat. 4 according to EN 954-1, PLd according to EN ISO 13849-1, and SIL 3 according to IEC/EN 62061</li> </ul>
<b>G9SX-LM</b> <b>Low-speed Monitoring Unit</b> <a href="#">WEB</a>		<ul style="list-style-type: none"> <li>● Motor rotation speed detected by proximity sensor</li> <li>● Monitors and confirms that speed does not exceed the preset level</li> <li>● Enabling switch input for maintenance</li> <li>● Clear LED diagnosis of all inputs and outputs</li> <li>● Up to Cat. 3 according to EN 954-1, PLd according to EN ISO 13849-1, and SIL 3 according to IEC/EN 62061</li> </ul>

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# Product Lineup

## ■ Safety Network Controller NX Series EtherNet/IP (CIP-Safety)




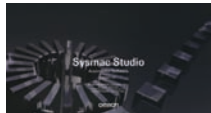
Model	Appearance	Features
<b>NX-CSG320/SL5/SI/SO</b> Communication Control Unit/ Safety CPU Unit/ Safety Input Unit/ Safety Output Unit Cat. No. F104	 <b>NEW</b>	<ul style="list-style-type: none"> <li>● CIP Safety on EtherNet/IP Is Supported</li> <li>● Feature EtherNet/IP Communications Port</li> <li>● The Standard Unit of NX-series Available</li> <li>● Excellent Connectability with OMRON Safety I/O Devices</li> <li>● Support for the IEC 61131-3 Programming Environment</li> <li>● Program Languages Based on the IEC 61131-3 International Standard</li> <li>● Programming with Variables</li> <li>● Complete Advanced Validation</li> <li>● Checking Safety Programs and Safety Parameters</li> <li>● Debugging</li> </ul>
<b>GI-SMD/SID</b> Safety I/O Terminal GI-S Series Cat. No. F104	 <b>NEW</b>	<ul style="list-style-type: none"> <li>● Support for CIP Safety on EtherNet/IP</li> <li>● Standard-feature EtherNet/IP port</li> <li>● Easy programming with Sysmac Studio</li> </ul>
<b>SYSMAC-SE/FE</b> Automation Software Sysmac Studio Cat. No.P138		<ul style="list-style-type: none"> <li>● One software for motion, logic, safety, drives , vision and HMI</li> <li>● Fully compliant with open standard IEC 61131-3 and Japanese standard JIS B3503</li> <li>● Supports Ladder, Structured Text and Function Block programming with a rich instruction set</li> <li>● CAM editor for easy programming of complex motion profiles</li> <li>● One simulation tool for sequence and motion in a 3D environment</li> <li>● Advanced security function with 32 digit security password</li> </ul>

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## ■ Safety Controller NX Series EtherCAT (FSoE) + EtherNet/IP (CIP-Safety)

Safety over  
EtherCAT™



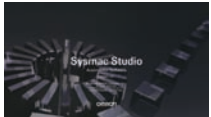


Model	Appearance	Features
<b>NX102-□□□□</b> NX1 CPU Unit <b>NX-SL5</b> Safety CPU Unit SL5 <b>NX-SI/SO</b> Safety Input Unit/ Safety Output Unit Cat. No. F104	 <b>NEW</b>	<ul style="list-style-type: none"> <li>● Fast and accurate control by synchronizing all machine devices with the PLC and Motion Engines</li> <li>● Three built-in industrial Ethernet ports</li> <li>● OPC UA server functionality</li> <li>● Up to 12 axes of control via EtherCAT</li> <li>● Up to 32 local NX I/O Units</li> <li>● DC power supply without battery backup</li> <li>● Fully conforms to IEC 61131-3 standard programming</li> <li>● PLCOpen Function Blocks for Motion Control allow users to create complex programs quickly and easily</li> <li>● Direct connection to a database, with no special unit, software, or middleware required (NX102-□□20)</li> </ul>
<b>SYSMAC-SE</b> Automation Software Sysmac Studio Cat. No.P138		<ul style="list-style-type: none"> <li>● One software for motion, logic, safety, drives , vision and HMI</li> <li>● Fully compliant with open standard IEC 61131-3 and Japanese standard JIS B3503</li> <li>● Supports Ladder, Structured Text and Function Block programming with a rich instruction set</li> <li>● CAM editor for easy programming of complex motion profiles</li> <li>● One simulation tool for sequence and motion in a 3D environment</li> <li>● Advanced security function with 32 digit security password</li> </ul>

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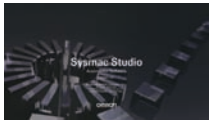


## ■ Safety Controller NX Series EtherCAT (FSOE) Safety over EtherCAT

Model	Appearance	Features
<b>NX102/SL3/SI/SO</b> NX1 CPU Unit, Safety Control Units WEB		<ul style="list-style-type: none"> <li>Support for the IEC 61131-3 Programming Environment</li> <li>Program Languages Based on the IEC 61131-3 International Standard</li> <li>Programming with Variables</li> <li>Complete Advanced Validation</li> <li>Checking Safety Programs and Safety Parameters</li> <li>Debugging</li> </ul>
<b>NX701/102-, NJ501/301/101-CPU</b> NX/NJ Series CPU Unit <b>NX-ECC/SL3/SI/SO</b> EtherCAT Coupler Unit, Safety Control Units Cat. No. F101		<ul style="list-style-type: none"> <li>Integrated safety into machine automation possible by connecting with the NX-series EtherCAT Coupler.</li> <li>The Safety CPU Unit controls up to 128 Safety I/O Units.</li> <li>4 or 8 points per Safety Input Unit. The 4-point Safety Input Unit can be directly connected with OMRON Non-contact Switches and Singlebeam Sensors.</li> <li>2 or 4 points per Safety Output Unit. The 2-point Safety Output Unit is characterized by large output breaking current of 2.0 A.</li> <li>The Safety Units can be freely allocated in any combination with standard NX I/O.</li> <li>Compliant with IEC61131-3</li> <li>Safety programs can be standardized and reused efficiently by using POU's for design and operation.</li> </ul>
<b>SYSMAC-SE</b> Automation Software Sysmac Studio Cat. No. P138		<ul style="list-style-type: none"> <li>One software for motion, logic, safety, drives, vision and HMI</li> <li>Fully compliant with open standard IEC 61131-3 and Japanese standard JIS B3503</li> <li>Supports Ladder, Structured Text and Function Block programming with a rich instruction set</li> <li>CAM editor for easy programming of complex motion profiles</li> <li>One simulation tool for sequence and motion in a 3D environment</li> <li>Advanced security function with 32 digit security password</li> </ul>



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## ■ Safety Controller NX Series Stand-alone System

Model	Appearance	Features
<b>NX-EIC202/SL3/SI/SO</b> EtherNet/IP Coupler Unit, Safety Control Units Cat. No. F100		<ul style="list-style-type: none"> <li>Up to 63 NX-IO Units can be connected to one EtherNet/IP Coupler Unit. Standard and high-performance units can be mixed1. *</li> <li>Each Coupler plus its I/O form just a single EtherCAT node on the network.</li> <li>I/O control and safety control can be integrated by connecting Units for safety.</li> <li>The IP address can be found on the label on the Unit, without using software.</li> <li>Slave configuration by Sysmac Studio can be done centrally via the controller, or on-the-spot using the Coupler's built-in USB port.</li> </ul> <p>* Input per Coupler Unit: Maximum 504 bytes, Output per Coupler Unit: Maximum 504 bytes</p>
<b>SYSMAC-SE/NE/FE</b> Automation Software Sysmac Studio Cat. No. P138		<ul style="list-style-type: none"> <li>One software for motion, logic, safety, drives, vision and HMI</li> <li>Fully compliant with open standard IEC 61131-3 and Japanese standard JIS B3503</li> <li>Supports Ladder, Structured Text and Function Block programming with a rich instruction set</li> <li>CAM editor for easy programming of complex motion profiles</li> <li>One simulation tool for sequence and motion in a 3D environment</li> <li>Advanced security function with 32 digit security password</li> </ul>






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## ■ Safety Controller G9SP Series

Model	Appearance	Features
<b>G9SP</b> Safety Controller Cat. No. F090		<ul style="list-style-type: none"> <li>Easy programming for complex safety control</li> <li>Unique programming software to support easy design and verification</li> <li>Memory cassette for easy duplication of configuration</li> </ul>
<b>WS02-G9SP□□-V□</b> G9SP Configurator Cat. No. F090		G9SP configuration tool <ul style="list-style-type: none"> <li>Easy setup and configuration</li> <li>Simulation for easy verification</li> <li>User-defined Function Blocks greatly reduce design time</li> </ul>

# Product Lineup

## ■ Safety Network Controller DeviceNet□Safety NE1A/NE0A Series

Model	Appearance	Features
<b>NE1A-SCPU(-EIP) Series</b> Safety Network Controller WEB		<b>Achieve Safety Control through Programming.</b> <b>NE1A-SCPU</b> <ul style="list-style-type: none"> <li>● Compact Safety Controller.</li> <li>● Reduced wiring with safety networks. Connect up to 32 Safety Terminals.</li> <li>● Monitor the safety system from Standard Controllers across the network.</li> <li>● ISO13849-1 (PL<sub>e</sub>) and IEC 61508 SIL3 certification.</li> </ul> <b>NE1A-SCPU-EIP</b> <ul style="list-style-type: none"> <li>● Monitors safety systems via EtherNet/IP.</li> <li>● Equipped with master functions of CIP Safety on DeviceNet.</li> <li>● Does not require external devices for connecting Safety Network Controller and EtherNet/IP.</li> </ul>
<b>NE0A-SCPU Series</b> Safety Network Controller WEB		Ideal for safety applications with up to 12 inputs <ul style="list-style-type: none"> <li>● Safety category compliant circuits can be built easily</li> <li>● Reusable user-defined safety circuit templates for easy standardization</li> <li>● TÜV-certified templates available</li> <li>● NE0A operating status can be monitored by standard DeviceNet master</li> <li>● Network distribution in combination with NE1A Safety Controller</li> </ul>
<b>DST1 Series</b> Safety I/O Terminal WEB		<ul style="list-style-type: none"> <li>● Terminals for distributed safety components reduce wiring</li> <li>● Up to 12 inputs for safety signals</li> <li>● Up to 8 safety outputs (solid state or relay)</li> <li>● Safety system can be monitored by standard controller via networks</li> <li>● Up to Cat. 4 according to EN 954-1/ISO 13849-1 and SIL 3 according to IEC 61508</li> <li>● DST1-XD0808SL-1 with built-in logic functions for high-speed processing in applications requiring partial stopping of safety systems</li> </ul>
<b>NE1A-EDR01</b> EtherNet/IP-DeviceNet Router WEB		Allows safety system to be monitored via Ethernet <ul style="list-style-type: none"> <li>● Remote operation of safety system from PC</li> <li>● Monitors safety system by other vendor's PLC via Ethernet</li> <li>● UDP packet messages supported</li> </ul>
<b>WS02-CFSC1-J/E</b> Network Configurator WEB		Configuration tool for NE Series <ul style="list-style-type: none"> <li>● I/O configuration of safety network controllers and safety I/O terminals</li> <li>● Safety circuit programming</li> <li>● Monitoring of safety circuits</li> <li>● Includes DeviceNet Configurator functions</li> </ul>

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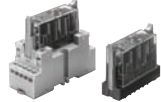

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## ■ Safety relays

Model	Appearance	Features
<b>G7SA</b> Relay with Forcibly Guided Contacts Cat. No. J120		<ul style="list-style-type: none"> <li>Relays with forcibly guided contacts (EN 50205 Class A, certified by VDE)</li> <li>Compact and slim design</li> <li>4- and 6-pole relays available</li> <li>Terminals are arranged for easy PCB layout</li> <li>Reinforced insulation between inputs, outputs and poles</li> </ul>
<b>G7S-□-E</b> Relay with Forcibly Guided Contacts WEB		<ul style="list-style-type: none"> <li>NO contacts: 10 A at 250 VAC and 10 A at 30 VDC, NC contacts: 6 A at 250 VAC and 6 A at 30 VDC (for resistive loads)</li> <li>Relays with forcibly guided contacts (EN 50205 Class A, certified by VDE)</li> <li>Supports CE marking of machinery (Machinery Directive)</li> <li>Track-mounting and back-mounting sockets available</li> </ul>
<b>G7Z</b> Power Relay Cat. No. J160		<ul style="list-style-type: none"> <li>Switching current 160 A (40 A rating/4-pole/IEC-AC1)</li> <li>Relay in combination with auxiliary contact block meets EN 60947-4-1</li> <li>Safety function with mirror contacts in various configurations</li> <li>Reduced openings to protect against dust and foreign matters</li> <li>Compact, cost efficient solution for applications such as inverters, UPS, solar and fuel-cell battery circuits</li> </ul>

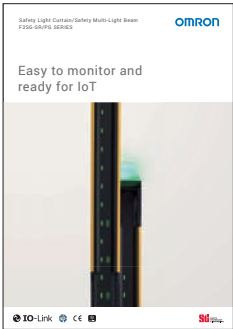
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## ■ Safety drives

Model	Appearance	Features
<b>R88M-1A□/</b> <b>R88D-1SAN□-ECT</b> AC Servo System with Safety Functionality Cat. No. I838/I842 *	 Available soon	<ul style="list-style-type: none"> <li>Advanced safety functions: STO/SS1/SS2/SOS/SLS/SLP/SDI/SBC</li> <li>Servo drive for rotary motors</li> <li>Up to 3 kW</li> <li>Battery-free absolute encoder</li> <li>Power, encoder and brake in one pre-assembled cable</li> </ul>
<b>R88M-1□/</b> <b>R88D-1SN□-ECT</b> AC Servo System Cat. No. I821	 NEW	<ul style="list-style-type: none"> <li>Safety function: STO</li> <li>Servo drive for rotary motors</li> <li>Up to 15 kW</li> <li>Battery-free absolute encoder</li> </ul>
<b>3G3MX2-V1</b> Multi-function Compact Inverter Cat. No. I920		<ul style="list-style-type: none"> <li>Safety function: STO</li> <li>PM motor control helps save energy</li> <li>Positioning functionality</li> <li>Up to 15 kW</li> <li>Drive Programming</li> </ul>
<b>3G3RX2</b> High-function General-purpose Inverter Cat. No. I921/I923	 NEW	<ul style="list-style-type: none"> <li>Safety function: STO</li> <li>PM motor control helps save energy</li> <li>Triple rating: Normal Duty (ND), Low Duty (LD), and Very Low Duty (VLD)</li> <li>Up to 132 kW</li> <li>Drive Programming</li> </ul>

\* Released soon. The catalogs will begin to be available after the product is released.

# Introduction of safety component catalogs



## Safety Light Curtain/ Safety Multi-Light Beam

F3SG-SR/PG Series

Cat.No. F105



## Safety Network Controller

NX Series

Cat.No. F104

**Note: Do not use this document to operate the Unit.**

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