

solution GUIDE

**OMRON Industry
Safety solutions**

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The background of the page is a blurred industrial scene featuring a robotic arm and various mechanical components. A semi-transparent blue horizontal band is overlaid across the middle of the image, containing the title and a paragraph of text.

OMRON Industry Safety Solutions

Delve into a comprehensive exploration of OMRON solutions, where innovation meets specificity to address the unique challenges across multiple sectors. This document presents cutting-edge advancements tailored for the automotive, life sciences, food and commodity, semiconductor, and logistics industries. From precision engineering to data-driven optimization, these OMRON solutions exemplify the pinnacle of customized strategies, offering enhanced efficiency, reliability, and performance in diverse operational landscapes.

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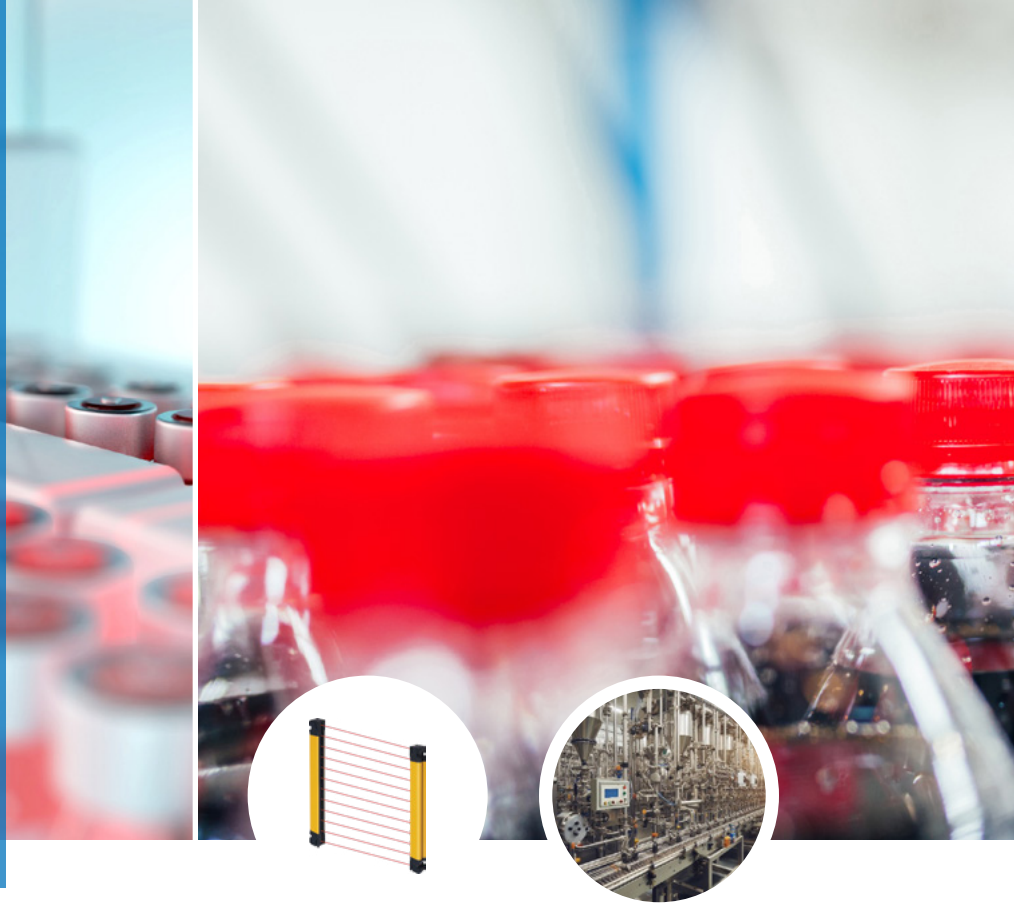
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Life Sciences and F&C Packaging and Filling Lines

Ensure safety, accuracy,
efficiency, flexibility,
and cost-effectiveness
in product positioning
and production



Key Features

- Area Beam Indicators (ABI) - Tri-color indicators for easy & instant status
- Back-up & restore settings with Intelligent Tap – can reduce maintenance setup time by 90%
- Perfect fit – Protective heights in 40 mm increments
- IO-Link – Easy remote monitoring of process & service data
- Bluetooth option

Challenges:

- Proper alignment of the light curtains
- Harsh environmental conditions
- External light sources or reflective surfaces can interfere

Why F3SG-SR light curtains for packaging and filling lines?

- Easy alignment function that simplifies the installation process
- Designed to withstand harsh environments with IP69G or IP69K rating
- Advanced technology to minimize interference and minimize the impact of external light sources

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Part Number	Description
F3SG-4SRA0400-14	Finger safe light curtain, 400mm height, Advanced Model
F3SG-4SRA1200-25	Finger safe light curtain, 1200mm height, Advanced Model
F3SG-4SRB0400-14	Finger safe light curtain, 400mm height, Basic Model
F3SG-4SRB1040-25	Finger safe light curtain, 1200mm height, Basic Model
F39-LSGA	Adjustable Side Mount Bracket, +/- 15 degrees
F39-SGIT-IL3	Intelligent Tap Module for Advanced Configuration

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Point-of-Operations Guarding

Protect workers by creating a barrier and triggering conveyor systems to stop if someone enters a hazardous area



Key Features

- Area Beam Indicators (ABI) - Tri-color indicators for easy & instant status
- Back-up & restore settings with Intelligent Tap – can reduce maintenance setup time by 90%
- Perfect fit – Protective heights in 40 mm increments
- IO-Link – Easy remote monitoring of process & service data
- Bluetooth option

Challenges:

- Ensuring proper access control
- Addressing potential pinch points
- Maintaining safety while maintaining productivity

Why F3SG-SR light curtains for guarding?

- Advanced access control capabilities, allowing for flexible and secure configuration of protected areas
- Slim and compact design, minimizing the risk of pinch points and ensuring worker safety
- Designed for high-speed applications, enabling efficient and productive operation while maintaining safety standards

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Part Number	Description
F3SG-4SRA0400-14	Finger safe light curtain, 400mm height, Advanced Model
F3SG-4SRA1200-25	Finger safe light curtain, 1200mm height, Advanced Model
F3SG-4SRB0400-14	Finger safe light curtain, 400mm height, Basic Model
F3SG-4SRB1040-25	Finger safe light curtain, 1200mm height, Basic Model
F39-LSGA	Adjustable Side Mount Bracket, +/- 15 degrees
F39-SGIT-IL3	Intelligent Tap Module for Advanced Configuration

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Robotic Work Cells

Enhanced safety, improved productivity, flexibility, easy integration, reliability, and compliance with safety standards



Key Features

- Area Beam Indicators (ABI) - Tri-color indicators for easy & instant status
- Back-up & restore settings with Intelligent Tap – can reduce maintenance setup time by 90%
- Perfect fit – Protective heights in 40 mm increments
- IO-Link – Easy remote monitoring of process & service data
- Bluetooth option

Challenges:

- Accurate alignment and detection in complex work cell layouts
- Reflective surfaces and external light sources
- Reliable performance in harsh manufacturing environments

Why F3SG-SR light curtains for robotic work cells?

- Easy alignment function that simplifies the installation process
- Advanced technology to minimize interference and minimize the impact of external light sources
- Designed to withstand harsh environments with IP69G or IP69K rating

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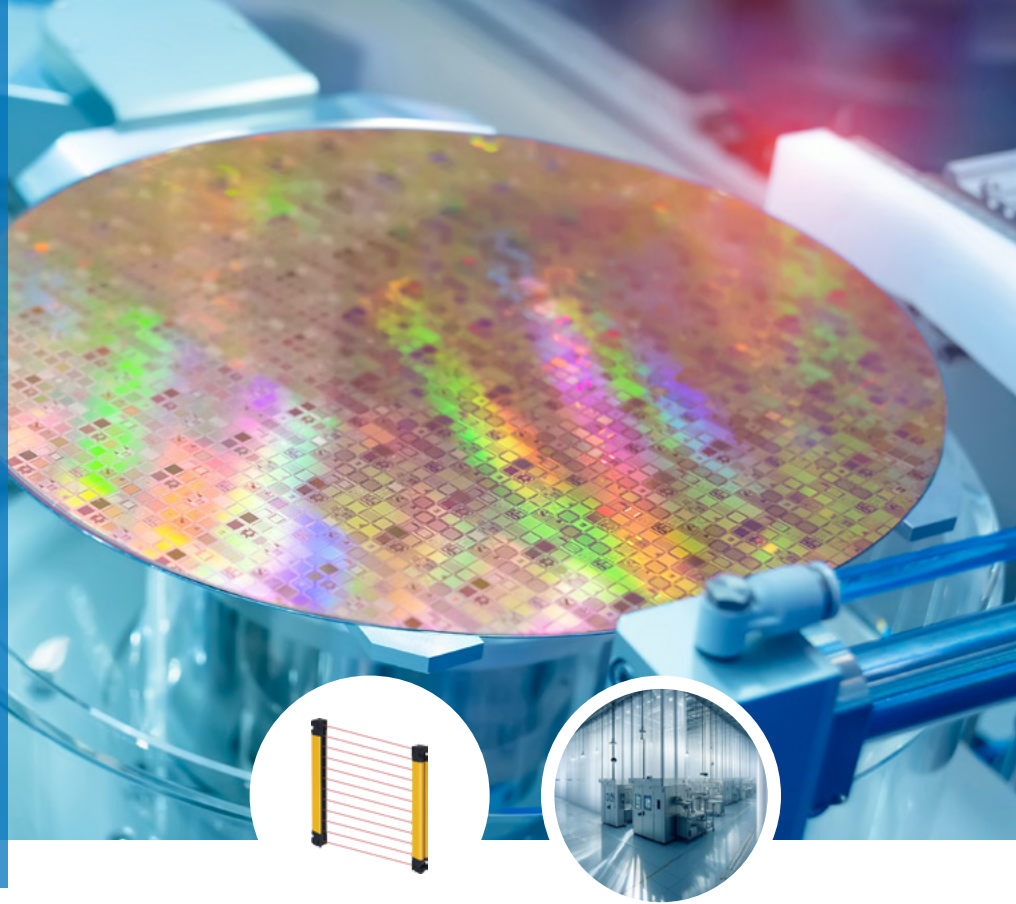
Part Number	Description
F3SG-4SRA0400-14	Finger safe light curtain, 400mm height, Advanced Model
F3SG-4SRA1200-25	Finger safe light curtain, 1200mm height, Advanced Model
F3SG-4SRB0400-14	Finger safe light curtain, 400mm height, Basic Model
F3SG-4SRB1040-25	Finger safe light curtain, 1200mm height, Basic Model
F39-LSGA	Adjustable Side Mount Bracket, +/- 15 degrees
F39-SGIT-IL3	Intelligent Tap Module for Advanced Configuration

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Cleanroom Equipment Protection

Non-contact safety barriers, high sensitivity, fast response times, easy integration, and compliance with safety standards to prevent contamination risks



Key Features

- Area Beam Indicators (ABI) - Tri-color indicators for easy & instant status
- Back-up & restore settings with Intelligent Tap – can reduce maintenance setup time by 90%
- Perfect fit – Protective heights in 40 mm increments
- IO-Link – Easy remote monitoring of process & service data
- Bluetooth connection option for configuration and monitoring

Challenges:

- False Triggers / Nuisance trips
- Alignment and Installation
- Maintenance and Calibration

Why F3SG-SR light curtains for Cleanrooms?

- Advanced technology that minimizes false triggers and ensures reliable detection of hazards
- Comprehensive support and guidance for the proper alignment and installation
- Designed for easy maintenance and calibration

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Part Number	Description
F3SG-4SRA0400-14	Finger safe light curtain, 400mm height, Advanced Model
F3SG-4SRA1200-25	Finger safe light curtain, 1200mm height, Advanced Model
F3SG-4SRB0400-14	Finger safe light curtain, 400mm height, Basic Model
F3SG-4SRB1040-25	Finger safe light curtain, 1200mm height, Basic Model
F39-LSGA	Adjustable Side Mount Bracket, +/- 15 degrees
F39-SGIT-IL3	Intelligent Tap Module for Advanced Configuration

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Food Processing Machine

Increase line efficiency while reducing the risk of contamination, safety bypassing, and need for maintenance



Key Features

- Three-color LED indicator for troubleshooting
- 3 different actuator positions enhance flexibility and simplify installation
- Compliant with ISO 14119 (Type 4/High Coded), ISO 13849-1 (PLe)

Challenges:

- Food & Commodity industry equipment operates in tight spaces, creating space constraints.
- Sanitation procedures in this industry may reduce equipment lifespan if not designed to withstand them.
- Safety devices should be easy to access and use to prevent tampering.

Why D41D non-contact safety door switch?

- Compact design makes the D41D ideal for placement within areas with dimension constraints
- The waterproof IP67 rating offers additional protection for component longevity, while the lack of moving parts reduces failure points.
- Non-contact sensors come automatically paired for easier installation, and RFID technology also makes the sensors tamper-proof.

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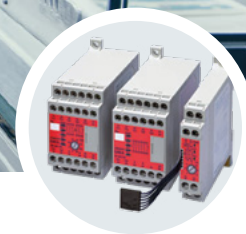
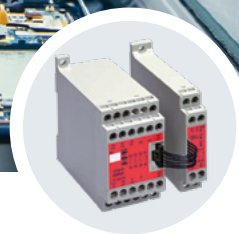


Part Number	Description
D41D-1CD-N1	Sensor, M8 connector
D41D-2CD-025N2	Sensor, M12 with 250 mm cable
D41D-A1	Actuator, Standard, W x D x H= 39 x 29.5 x 18 (mm)
D41D-A2	Actuator, Flat, W x D x H= 39 x 29.5 x 18 (mm)
D41D-A3	Actuator, Miniature, W x D x H= 22 x 9 x 7 (mm)
D41D-8P5-CFM8-702M	Cable, 2m, M8 connector, IP67
D41D-8P5-CFM8-705M	Cable, 5m, M8 connector, IP67
D41D-8P5-CFM8-710M	Cable, 10m, M8 connector, IP67
D41L-8P5-CFM12-905M	Cable, 5m, M12 connector, IP69
D41L-8P5-CFM12-910M	Cable, 10m, M12 connector, IP69
D41D-SK	Sealing Kit, seal mounting holes. contains: 4 flat plugs and 4 plugs with rim for high screw head
D41D-MS	Mounting Kit, contains: 2 mounting plates and 4 ferrule plugs

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Semiconductor Manufacturing Equipment

Control and monitor safety functions of diverse processes and equipment, ensuring safety of personnel and reliable performance



Key Features

- 45mm housing with 17.5 mm expansions
- Supports DIN track and screw mounting
- Expandable outputs with options for instantaneous or time-delay activation

Challenges:

- Space within panels for automated lines is highly limited, incentivizing an increase in panel product density.
- Machinery within the semiconductor industry process a high volume of products, and safeguarding measures must be able to withstand a high number of actuations.
- Complex wiring configurations not only introduce the potential for errors in setting up safety devices but also overcomplicate the panel setup.

Why the G9SA for semiconductor manufacturing equipment?

- Compact design offers optimized use of panel space, enabling potential expansion if necessary.
- Ideal for applications that require high number of activations per hour, possessing a max operating and response time of 30 and 10 ms respectively.
- Simple wiring connections decreases complexity and the potential for errors during setup, while still maintaining system efficiency.

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Part Number	Description
G9SA-301 AC/DC24	3 Safety Outputs, 1 Auxiliary
G9SA-501 AC/DC24	5 Safety Outputs, 1Auxiliary
G9SA-EX301	3 Safety Outputs, 1 Auxiliary
G9SA-TH301 AC/DC24*	3 Safety Outputs, 1 Auxiliary

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Safety Monitoring

Monitor, control and respond to safety-related events to ensure the safety of personnel, protect equipment and prevent accidents in the workplace.



Key Features

- LED indicators for quick and easy diagnosis
- Feedback signals enable easy maintenance
- Solid State outputs
- Easy integration with star and delta wiring

Challenges:

- Customers require consistent rapid response times to enact swift shutdowns when necessary.
- The large variety of machinery and layouts of safety networks necessitate flexible safety devices.
- Integrating new devices into existing systems can cause costly downtime, especially if they require separate setup or programming.

Why G9SX safety modules?

- G9SX safety module possess a max response time of 15 ms, quickly and safely stopping machinery and equipment if any fault is detected.
- G9SX modules can be connected by the logical “AND” to implement partial or complete shutdown depending on the needs of the customer.
- Safety modules require no extra set-up or programming in order to implement.

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Part Number	Description
G9SX-BC202-RT DC24	2 safety output instantaneous, 2 auxiliary outputs, screw terminal
G9SX-AD322-T15-RC DC24*	3 safety output instantaneous, 2 safety output off delayed, 2 auxiliary outputs, spring cage terminal
G9SX-SM032-RT	3 safety standstill detection output, 2 auxiliary outputs, screw terminal
G9SX-LM224-F10-RT	2 safety output instantaneous, 2 safety slow speed/stopping detection output, 4 auxiliary outputs, screw terminal
G9SX-NS202-RT DC24	2 safety output instantaneous, 2 auxiliary outputs, screw terminal
G9SX-NSA222-T03-RT DC24	2 safety output instantaneous, 2 safety output off delayed, 2 auxiliary outputs, screw terminal

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Automotive Manufacturing

Ensure real-time monitoring, control, and maintenance of a secure production environment, enhancing worker safety and accident prevention



Key Features

- Standard EtherNet/IP Communication Port
- Compatible with communication protocols like CIP Safety over Ethernet/IP and FSoE
- Generation of function verification reports for compliance documentation.

Challenges:

- Integration of new equipment demands careful planning to ensure compatibility with existing systems with minimal accommodations.
- A wide array of machinery and equipment necessitates flexible safety devices capable of providing necessary safety network.
- Maintenance and troubleshooting activities equates to costly downtime.

Why the NX-SL5 for automotive manufacturing?

- The use of standardized protocols in addition to a user-friendly interface makes NX-SL5 accessible without advanced training, facilitating initial set up, maintenance, and operation.
- Able to support a wide range of application layouts as well as expansion, supporting up to 254 I/O devices.
- Continuous datalogging and automatic testing simplifies troubleshooting, reducing required downtime for maintenance.

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Part Number	Descriptions
NX-SL5500	Safety PLC, up to 1024 safety I/O and 128 safety connections
NX-SL5700	Safety PLC, up to 2032 safety I/O and 254 safety connections
NX-CSG320	Network Coupler, EtherNet/IP, 3 Am. of Ports, 2 Networks
GI-SMD1624	Remote Module of safety I/Os, EtherNet/IP, 2 Am. of Ports, 1 Network, 12 Safety Inputs, 4 Safety Outputs, 12 Test Outputs
GI-SID1224	Remote Module of safety I/Os, EtherNet/IP, 2 Am. of Ports, 1 Network, 12 Safety Inputs, 12 Test Outputs
NX-SIH400 Ver 1.1	4 safety input points (PNP) with 2 test outputs
NX-SID800	4 safety input points (PNP) with 2 test outputs
NX-SOH200	8 safety input points (PNP) with 2 test outputs
NX-SOH200	2 safety outputs (PNP)
NX-SOH400	4 safety outputs (PNP)

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