

Safety light curtains
Safety multi beam sensor

F3SN/SH

total solutions for industrial safety



Advanced Industrial Automation

OMRON

Omron, a leading manufacturer of sensors for industrial safety, extends its product range with two new safety light curtains, the F3SN and the F3SH.

The F3SN is a type 4 sensor that provides finger, hand, limb and body protection in areas where access to dangerous machine parts is required while systems are still operating.

Safety sensor solution for safe applications

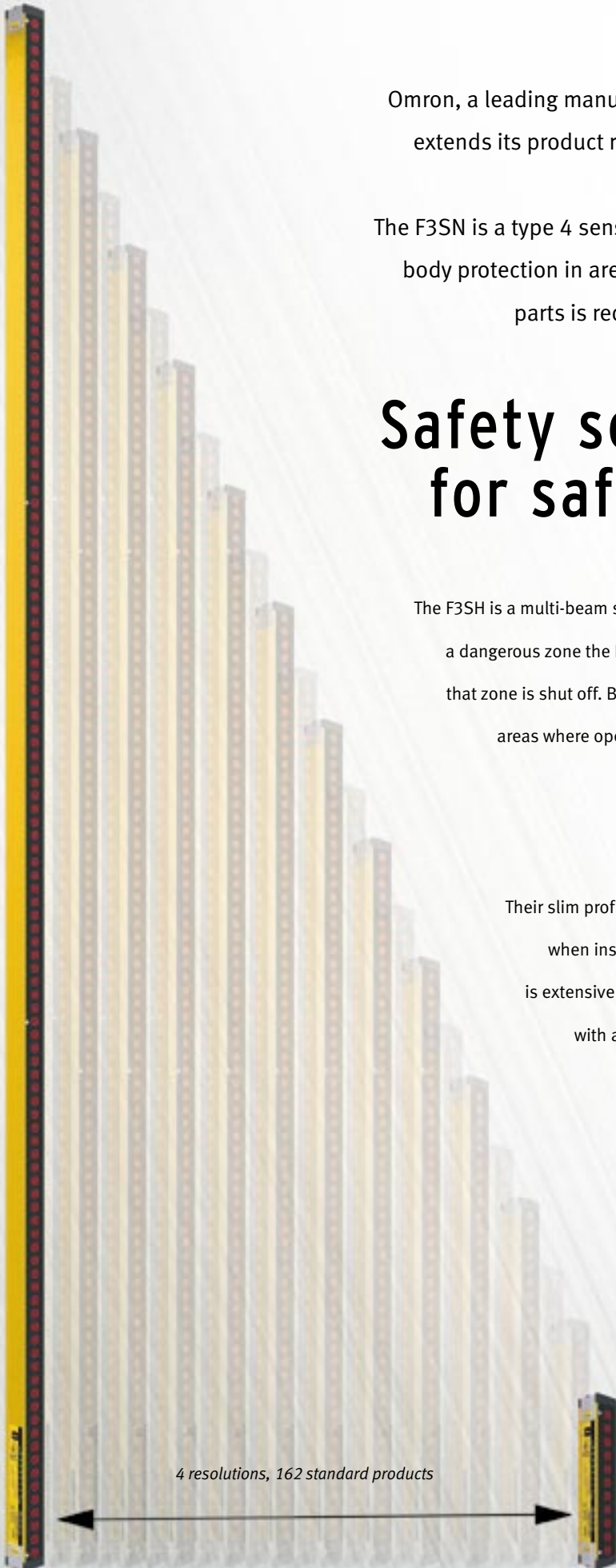
The F3SH is a multi-beam safety sensor for body protection. If a person enters a dangerous zone the F3SH ensures that the hazardous equipment within that zone is shut off. Both of these type 4 safety sensors are invaluable in areas where operation, maintenance and repair work is a necessity in an industrial environment.

Their slim profile makes these sensors highly attractive prospects when installation space is a premium. The field of operation is extensive; protection heights vary from 189 mm to 1822 mm, with a detection distance of up to 10 metres. In addition, the modular construction of these sensors means that you have a wide variety of detection heights and resolutions to choose from.

1822 mm

4 resolutions, 162 standard products

189 mm





Complete safety design

The F3SN-A and F3SH-A have been designed with the highest levels of safety in mind. Each sensor automatically checks itself for internal circuit problems, open- or short-circuit cables, and incidence light. If a problem is found, the sensor ensures that the machinery stops by switching to OFF for safety when an intrusion is detected.

Conforms to global safety standards

The F3SN-A and F3SH-A are classified as type 4 sensors and meet the highest safety standards. They conform to the mandatory international standards for safety sensors; IEC61496-1, IEC61496-2, and EN61496-1. They conform to the EU Machinery Directives, enabling them to be used with confidence in any equipment used in Europe. And they can be used with machinery designed for OSHA regulations and ANSI standards, making them suitable for use in the U.S. and Canada.

The first plug & play safety sensor and the slimmest controller around

The F3SP-B1P controller allows you to easily connect the sensor to your application. This unique solution saves on wiring and time. And to save space in the cabinet, the G9SB controller range features a 17.5 mm slim controller.



Designed to meet all your safety needs

The F3SN-A models are 25% slimmer than previous types, and feature a compact sensor surface area (30mm x 30mm) and built-in amplifier. With over 160 models to choose from in Omron's new range, you'll definitely find a model that suits your needs precisely. What's more, you can connect up to three of these sensor sets in series by using a standard model and a series-connection model with a connector, and you only need to wire one set on the controller.

Application functions available with the mobile se

F3SN blanking functions

By selecting the blanking function special applications can be achieved. Blank dedicated beams, or allow you to operate with reduced resolution.

Floating blanking

This function disables the detection for 1, 2, or 3 non-specific beams. This function is useful where, for example, a work-piece often needs to pass through the safety detection zone. The safety is still maintained, because the output is turned OFF if more than the specified number of disabled beams is broken.

It is possible for a protruding part to move in the safety field using this function.



Fixed blanking

This function uses a teaching technique to mask and disable specific beams. This is ideal for applications where part of a machine or jig is always inside the fixed detection zone of the safety light curtain.

If there is insufficient detection height for this application, the safety sensor is no longer effective. If the work-piece is removed, a hand can enter the detection zone and could be injured. To ensure the machine directive, this function ensures that additional measures and blanking are incorporated.

Space-saving design

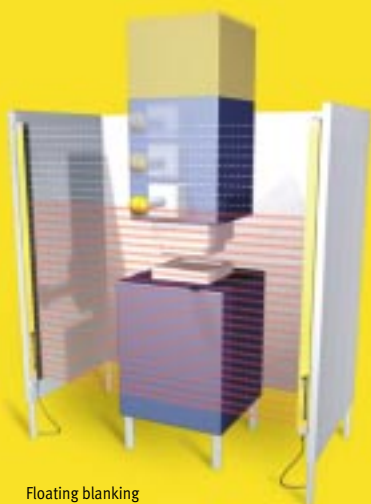
The sensor's compact design offers a detection height as high as the sensor dimension. There is no dead zone in the detection height of hand-protecting models.

Setting console

... can ignore

... is ideal
... zone.
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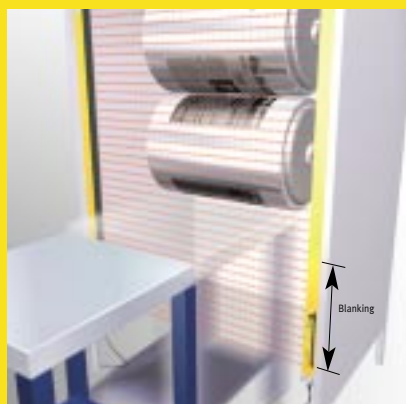
...



Floating blanking



... detection height in
... function is no
... workbench is
... er under the light
... red. To conform to
... is application must
... measures like
... l.



With fixed blanking in operation, once the workbench is removed the fixed blanking will be cancelled. Then, if a hand enters the danger area it will be detected, and the output will be turned OFF for safety.

Robust construction

Each safety light curtain and multi-beam safety sensor is made of a robust metal construction and solid, metal connector for durability.

Features at a glance!

F3SN safety light curtain

- Finger, hand and body protection (14 mm, 25 mm, 40 mm and 70 mm resolution)
- Detection distance 0.2 to 10 metres (7 metres for finger protection)
- Detection height 189 to 1822 mm
- Minimum cross-sectional dimension 30 x 30 mm
- No dead zone (hand protection devices)
- Complies with Type 4 (EN 61496-1)
- Multi-functional: fixed and floating blanking of beams, autostart, EDM, interlock
- Master-slave combinations with up to 3 sensors in series
- Accessories: setting console, Plug & Play controller, slim-size controller, cable, series connection cable, protective covers, mirrors, muting controller

F3SH multi-beam safety sensor

- Beam distance 300 mm
- Sensing distance 0.2 to 10 metres
- Detection height 900 mm
- Can be used in master-slave connection

Setting functions

The setting console ensures that functions can be programmed easily and safely next to your light curtain application.

Mobile setting console (option)

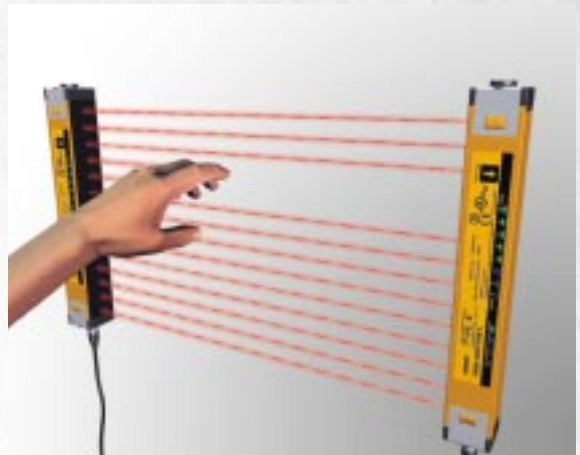
The mobile setting console can be used to further enhance the features of the F3SN/F3SH. Examples of these additional features include fixed blanking, floating blanking, and copying of all function settings from one sensor to another.



Key features of Omron's safety light curtain sensors



Finger protection



Hand protection

Type 4 sensors for highest safety requirements

These Type 4 sensors are ideal for use in an environment where access to dangerous machine parts is required whilst systems are operating, for instance for the insertion or removal of a work piece.

F3SN – for finger, hand, limb and body protection

Omron offers four variations of the F3SN safety light curtain - the F3SN-AP14, the F3SN-AP25, the F3SN-AP40 and the F3SN-AP70. The F3SN-AP14's beams can detect an object as small as 14 mm in diameter. The F3SN-AP25's beams can detect objects down to 25 mm (a hand, for example). Any detected object immediately triggers the F3SN to switch off machinery that poses a danger, ensuring safety at all times. The F3SN-AP40 and F3SN-AP70 are available for arm and body protection. Detection distances of up to 10 metres are possible.

F3SH – for body protection

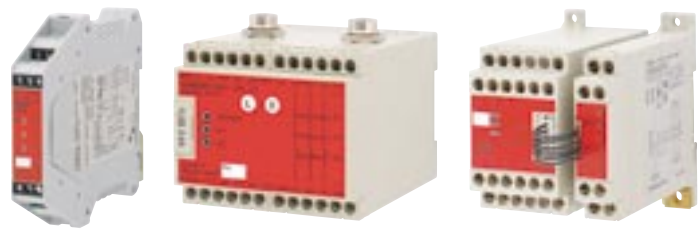
The F3SH-A multi-beam sensor uses the recommendations of the EN999 for body protection. Four beams with a distance of 300 mm in between build up a protection area up to 10 metres in length. With this multi-beam sensor a hazardous area can be easily protected against any danger. If one of the beams is broken, the system switches to a safe OFF condition. The F3SH-A sensor can be combined with the F3SN in a master-slave arrangement.



Controller selection matrix

	F3SP-B1P	G9SA-300 SC (incl. E-Sop)	G9SA series	G9SB-200-B/D G9SB-301-B/D
Plug & Play controller, 24VDC load	Possible with F39JC_B cable			
Plug & Play controller, 240V AC load		Possible with F39JC_C cable		
Modular controller, expandable, time delay			Possible with F39JC_A cable	
Slim Size Controller, 17,5mm /22,5mm				Possible with F39JC_A cable

Series connection cable : F39JCR2B



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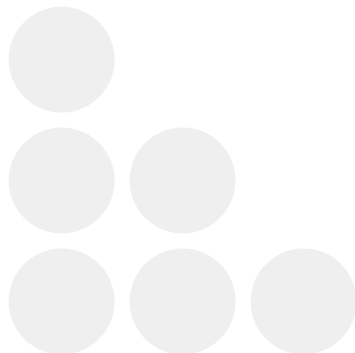
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