

PRODUCT PROFILE

SensaGuard™ Non-Contact Safety Switches

Key applications and industries:

The SensaGuard product family of coded non-contact interlock switches is intended for machine guarding with part or full body access. It is particularly suited for machines where multiple access doors must be monitored up to Safety category 4/SIL3.

The stainless steel version is suitable for use in harsh environments or high-pressure wash-down areas typically found in the food and beverage industries. Other typical industries include:

- Packaging
- Material Handling
- Printing, Paper, Paperboard
- Life Sciences
- Fiber and Textiles

Benefits

- No dedicated controller required
- Cat 4 / SIL3 rating maintained even with multiple units connected in series
- Switches can be connected in series with other devices (Light Curtains, E-stops, key interlock switches)
- Extended diagnostics for easy troubleshooting
- Tolerance to misalignment
- Mounting compatibility to existing and competitive products.
- Multiple sensing directions
- Suitable to use in harsh environments
- Use standard proximity mounting brackets



When it comes to machine safety, Rockwell Automation® knows that protection of personnel and equipment is your main concern. At the same time, flexibility and productivity are points that must also be considered as you design your safety system. Optimize all of these with the new Allen-Bradley® SensaGuard family of non-contact switches.

SensaGuard non-contact safety switches are Category 4 /SIL 3 rated switches per EN954-1, TÜV functional safety approved to IEC61508.

Featuring the latest generation of RFID technology for coding and inductive technology for sensing, SensaGuard large sensing range and tolerance to misalignment is a cost-effective solution that is ideally suited for a wide range of industrial safety applications.

Switches can be connected to a standard safety relay, for example, the MSR126, MSR127, MSR200/300 Family, SmartGuard™ and Safety I/O Blocks. There are multiple actuator sizes for large sensing distance

- Multiple actuator sizes for large sensing distance typically (15 – 25mm)
- IP69K environmental rating
- Short circuit and over voltage protection
- LED located on the switch for door status and troubleshooting
- 2 Safety PNP outputs and 1 auxiliary PNP output

Product selection

SensaGuard M18 barrel, plastic, 18mm target



Connection	Safety Outputs	Auxiliary Outputs	Catalog Number
8 Pin Micro Pigtail	2	1	440N-Z21S16H
3m Cable	2	1	440N-Z21S16A
10m Cable	2	1	440N-Z21S16B

SensaGuard M18 barrel, plastic, 30mm target



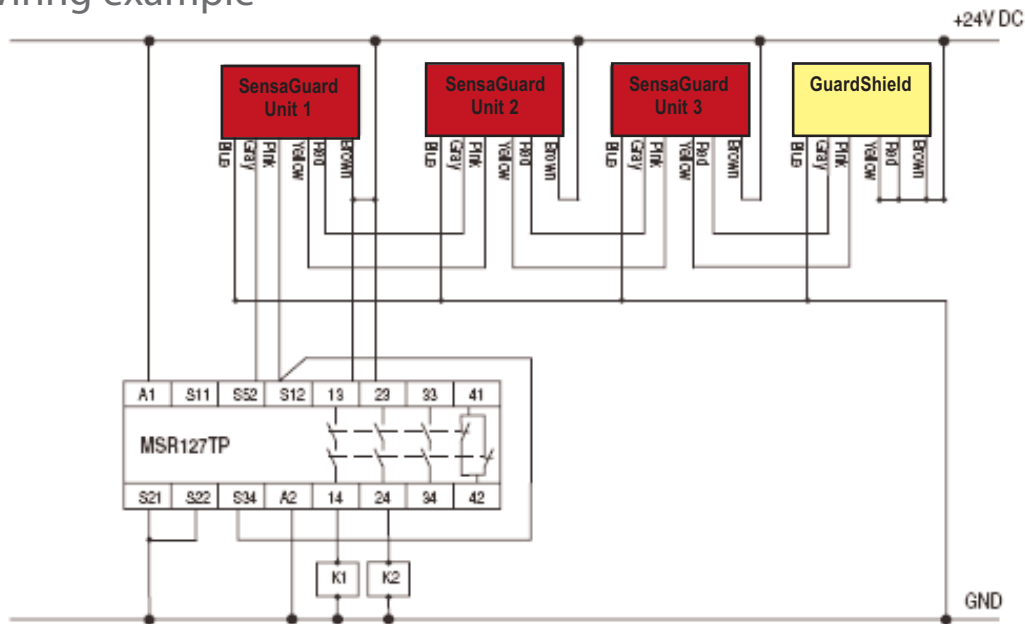
Connection	Safety Outputs	Auxiliary Outputs	Catalog Number
8 Pin Micro Pigtail	2	1	440N-Z21S26H
3m Cable	2	1	440N-Z21S26A
10m Cable	2	1	440N-Z21S26B

SensaGuard M18 barrel, Stainless Steel, 18mm target



Connection	Safety Outputs	Auxiliary Outputs	Catalog Number
8 Pin Micro Pigtail	2	1	440N-Z21S17H
3m Cable	2	1	440N-Z21S17A
10m Cable	2	1	440N-Z21S17B

Wiring example



MSR127TP with 3 sensors and 1 440L light curtain in series, automatic reset, driving 100S or 700S safety contactors.
 Note: Light curtain must be last (farthest from MSR127)

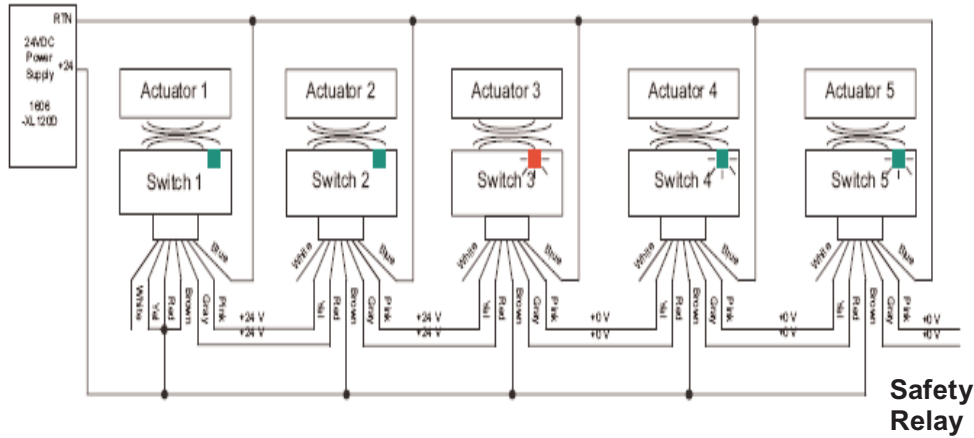
Diagnostics

LED Indicators (per IEC 60073)

Device Output LED	State	Status
	Off	Not Powered
	Red	Not Safe, Safety Output not active
	Green	Door Closed, Safety Output active
	Green flash	Power up test or Safety Output inputs not valid
	Red Flash	1 Hz Flash Recoverable Fault
		4 Hz Flash Non-recoverable Fault, requires power cycle to reset device

Troubleshooting:

Series Circuit



Unit LED

Solid Green

Solid Green

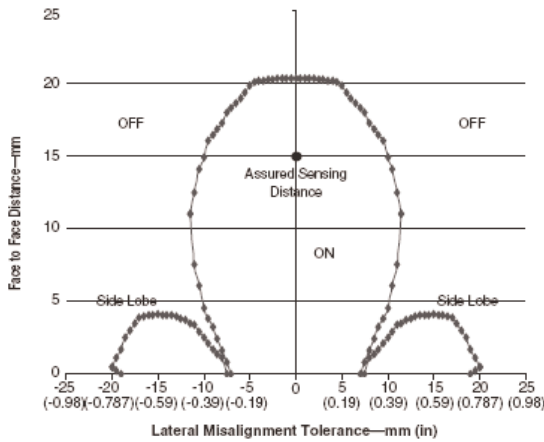
Unit Fault
Blinking Red

Blinking Green

Blinking Green

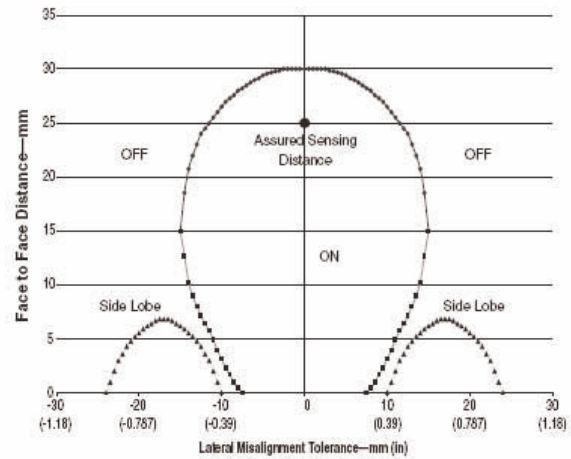
Misalignment Curve

18 mm Unit with 18 mm Target



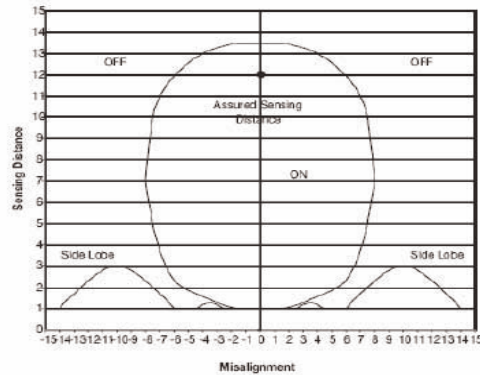
Note: There must be a minimum spacing of 4 mm (0.157 in) if actuator and sensor face approaches laterally. This will prevent false triggering due to the side lobe areas.

18 mm Unit with 30 mm Target



Note: There must be a minimum spacing of 7 mm (0.275 in) if actuator and sensor face approaches laterally. This will prevent false triggering due to the side lobe areas.

18 mm Unit with 18 mm Target

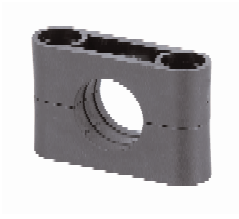


Note: There must be a minimum spacing of 4 mm (0.157 in) if actuator and sensor face approaches laterally. This will prevent false triggering due to the side lobe areas.

Mounting Brackets



871A-SCBP18



871A-BP18



871A-BRS18



60-2649

List of Recommended Relays

- MSR126
- MSR127
- MSR123
- MSR124
- MSR131
- MSR138
- MSR211
- MSR121
- MSR320
- MSR200 Family (except MSR210)
- MSR300 Family
- SmartGuard
- 1791DS family
- 1791ES family
- 1732DS family



www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846