Panasonic
INDUSTRY

NEW

Compatible with Control Category 4, PLe, SIL3, and lower

Non-Contact

Safety Door Switch

SG-P SERIES

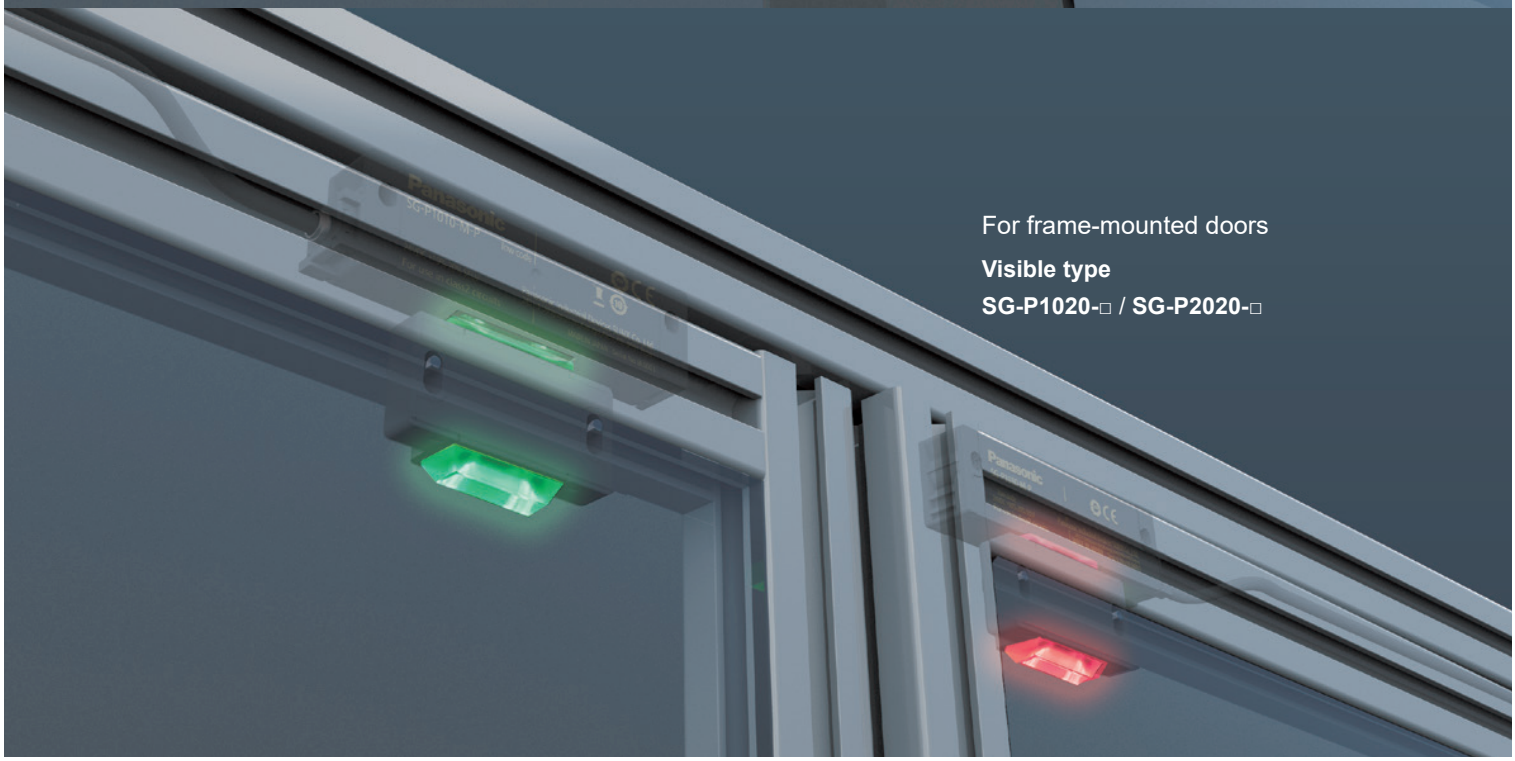
CE | TÜV SÜD Certified

At-a-Glance Recognition of Open / Closed Conditions of Machine Room Doors

For frame-less doors

Compact type

SG-P1010-□ / SG-P2010-□



For frame-mounted doors

Visible type

SG-P1020-□ / SG-P2020-□

* Control category varies depending on external circuit configurations and wiring.

Data weryfikacji 07.10.2025 | Dystrybucja ASTAT

Large and Bright Indicators Notify the Open / Closed Conditions of Machine Room Doors.

When any of the safety switches connected in series enters a non-detecting state, the flashing function activates the indicators of all other safety switches to flash in green to notify the operator.

Open door is indicated by the indicator lit up in bright red.

Indicators of other (closed) doors linked to the open door flashes in green to notify unsafe condition.

Helps prevent deactivation of safety switches.

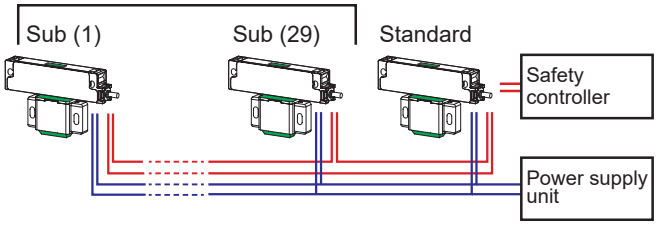
Intentional deactivation of a safety switch can lead to a serious industrial disaster. The **SG-P** series high-code models detect only the paired actuators. They support the ISO 14119* coding level (High Level Coded Actuator) and prevent intentional deactivation of safety switches.

* Safety of machinery – Interlocking devices associated with guards – Principles for design and selection

Master-slave (standard unit and sub unit) configuration structure for simplified wiring. Up to 30 units can be connected in series.

Previously, when cascade connection is used, extra man-hours are required for connecting wires to the switches for linked operation. When the **SG-P** series is installed, the standard model serves as a master unit and outputs safety signals (OSSD1 / 2) in a batch. No extra wiring work is necessary for cascade connection of the sub units that serve as slave units. A maximum of 30 units can be connected, thus contributing to the reduction of equipment wiring work.

Each standard unit can be connected with up to 29 sub units.



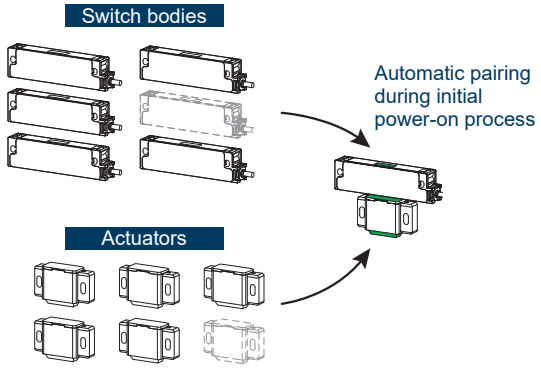
Highly visible even when installed on the inside surface of door

Door switches installed on the inside of doors are difficult to see from the outside, so it is hard to check whether the doors are open or closed. The **SG-P** series units are highly visible from the outside, thus allowing reliable confirmation. The **SG-P** series eliminates the need to install switches on the outside of equipment, and it contributes to the simplification of equipment.

No pairing required prior to installation

Each switch body and actuator can be easily paired by bringing them close to each other and supplying power during the initial setup.
When the units are cascade-connected, turning on the power completes the pairing procedures in a batch, thus reducing the man-hours required for the setup.

* High-code models (**SG-P20□-M-□**, **SG-P20□-S**) only



Data weryfikacji 07.10.2025 | Dystrybucja ASTAT

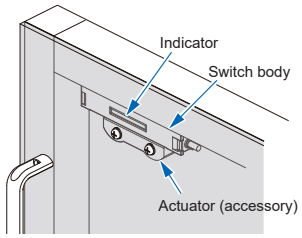
ORDER GUIDE

Type (Note)		Model No.	Low code / High code	Cable length	Control output (OSSD 1, OSSD 2)
Compact type	Standard	**SG-P1010-M-P**	Low code	5 m 16.404 ft	PNP open-transistor collector 2 outputs
		SG-P1010-M-N			NPN open-transistor collector 2 outputs
		SG-P2010-M-P	High code		PNP open-transistor collector 2 outputs
		SG-P2010-M-N			NPN open-transistor collector 2 outputs
	Sub	**SG-P1010-S**	Low code	3 m 9.843 ft	—
		SG-P2010-S	High code		
Visible type	Standard	**SG-P1020-M-P**	Low code	5 m 16.404 ft	PNP open-transistor collector 2 outputs
		SG-P1020-M-N			NPN open-transistor collector 2 outputs
		SG-P2020-M-P	High code		PNP open-transistor collector 2 outputs
		SG-P2020-M-N			NPN open-transistor collector 2 outputs
	Sub	**SG-P1020-S**	Low code	3 m 9.843 ft	—
		SG-P2020-S	High code		

Note: Sub units cannot be used alone without a standard unit. When only one unit is installed, use a standard unit. When multiple units are connected in series, be sure to combine a standard unit and sub units.

Available types

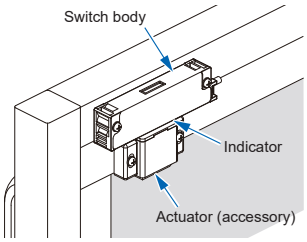
Compact type



<Standard>
- **SG-P1010-M-P**
- **SG-P1010-M-N**
- **SG-P2010-M-P**
- **SG-P2010-M-N**

<Sub>
- **SG-P1010-S**
- **SG-P2010-S**

Visible type



<Standard>
- **SG-P1020-M-P**
- **SG-P1020-M-N**
- **SG-P2020-M-P**
- **SG-P2020-M-N**

<Sub>
- **SG-P1020-S**
- **SG-P2020-S**

Notes: 1) Sub units cannot be used alone without a standard unit. When only one unit is installed, use a standard unit. When multiple units are connected in series, be sure to combine a standard unit and sub units.
2) The switch body must be connected to a power supply unit and a safety device such as a safety controller. Please prepare a power supply unit and a safety device separately.

SPECIFICATIONS

Item \ Type (Note 2) / Model		Standard, PNP output	Standard, NPN output	Sub
		SG-P□-M-P	**SG-P□-M-N**	**SG-P□-S**
Applicable standard	International standards	ISO 13849-1 (Category 4, PLe), IEC 61508-1 to 7 (SIL3), IEC 62061 (SIL3), IEC 60947-5-3, ISO 14119		
	Japan	JIS B 9705-1, JIS C 0508 1 to 7, JIS B 9961, JIS C 8201-5-2, JIS B 9710		
	Europe (EU member states)	EN 60947-5-3, EN 300 330, EN 301 489-1		
Regulatory compliance		CE Marking (Machinery Directive, RE Directive, RoHS Directive), TÜV SÜD Certificate		
Operating distance	Front / Side	Sao (OFF→ON): 5 mm 0.197 in, Sar (ON→OFF): 15 mm 0.591 in		
Power supply voltage		24 V DC$^{+10}_{-20}$ % Ripple P-P 10 % or less		
Current consumption		30 mA or less		20 mA or less
Control output (OSSD 1, OSSD 2) (Note 3)		PNP open-transistor collector 2 outputs • Maximum source current: 100 mA	NPN open-transistor collector 2 outputs • Maximum sink current: 100 mA	—
		• Applied voltage: Same as the power supply voltage (PNP output: between control output and 0 V, NPN output: between control output and +V) • Residual voltage: 2 V or less (source current and sink current: 100 mA) (excluding voltage drop due to cable) • Leakage current: 0.2 mA or less (including power OFF state) • Maximum load capacity: 0.47 µF • Load wiring resistance: 3 Ω or less		—
	Operation mode (output operation)	• When the actuator is detected (safe state): ON • When the actuator is not detected (unsafe state or lockout state): OFF • When the switch body (sub) does not detect actuator (cascade connection): OFF		—
	Protection circuit (short-circuit protection)	Incorporated		—
Response time		• For single unit: ON→OFF 100 ms or less, OFF→ON 100 ms or less • For multiple units: Time for single unit + 5 ms × (number of connected units - 1)		
Number of units connected in series		30 units or less (Standard 1 unit, Sub 29 units)		
Pollution degree		3		
Protection		IP65 (IEC)		
Material		Switch body: PBT, PC, stainless steel (SUS), silicone rubber Actuator: PBT, PC (Only Visible type)		
Cable		6–core cabtyre cable, 5 m 16.404 ft long		4–core cabtyre cable, 3 m 9.843 ft long

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +23 °C +73.4 °F
2) Sub units cannot be used alone without a standard unit. When only one unit is installed, use a standard unit. When multiple units are connected in series, be sure to combine a standard unit and sub units.
3) Provided only on standard models.

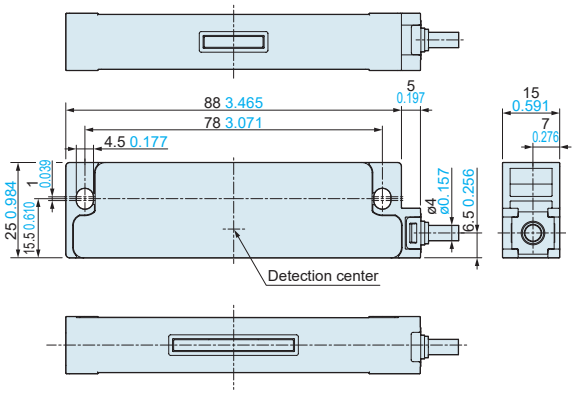
Data weryfikacji 07.10.2025 | Dystrybucja ASTAT

DIMENSIONS (Unit: mm in)

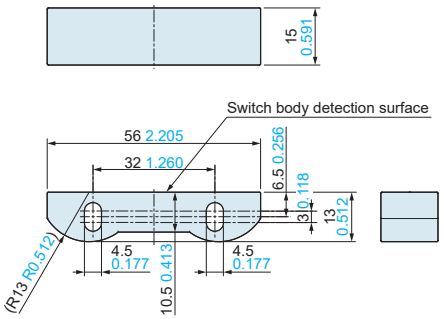
The CAD data can be downloaded from our website.

SG-P□10-M-□ SG-P□10-S — Compact type

Switch body

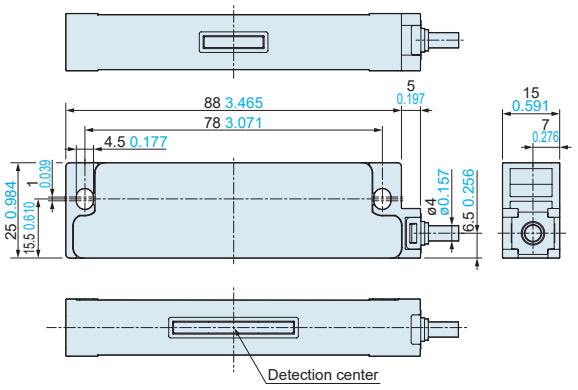


Actuator (accessory)

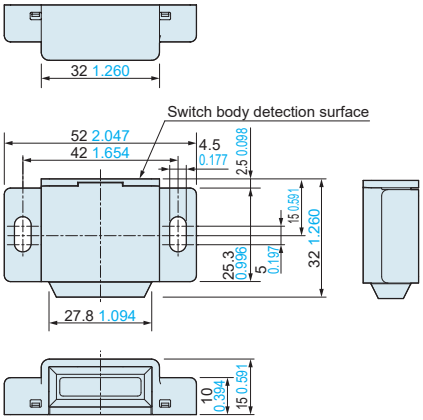


SG-P□20-M-□ SG-P□20-S — Visible type

Switch body



Actuator (accessory)



Please contact .....

Panasonic Corporation
Industrial Device Business Division
■ 7-1-1, Morofuku, Daito-shi, Osaka 574-0044, Japan
industrial.panasonic.com/ac/e/

Panasonic

©Panasonic Corporation 2020

Data weryfikacji 07.10.2025 | Dystrybucja ASTAT