

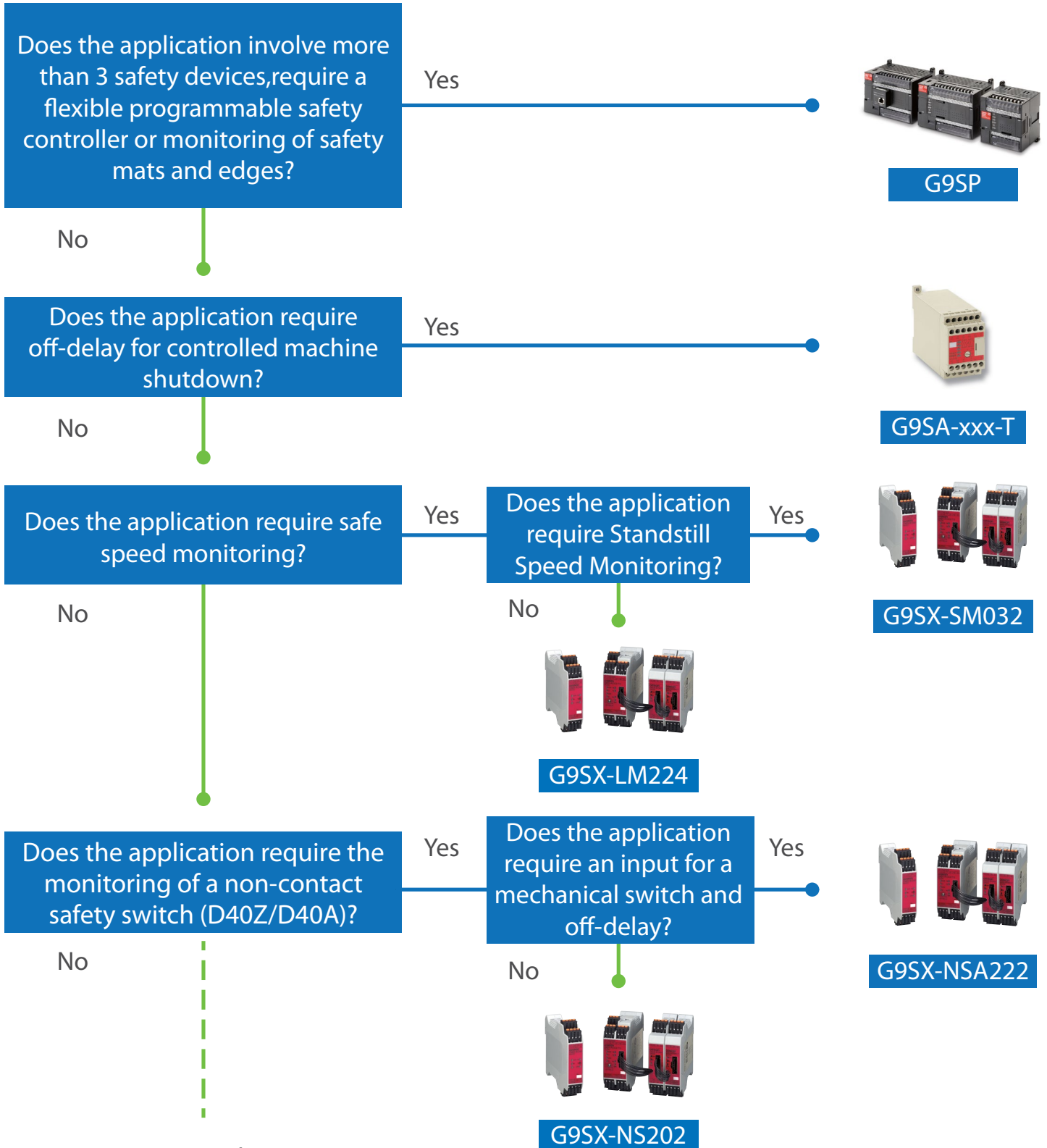
Safety Relays

Product selection guide



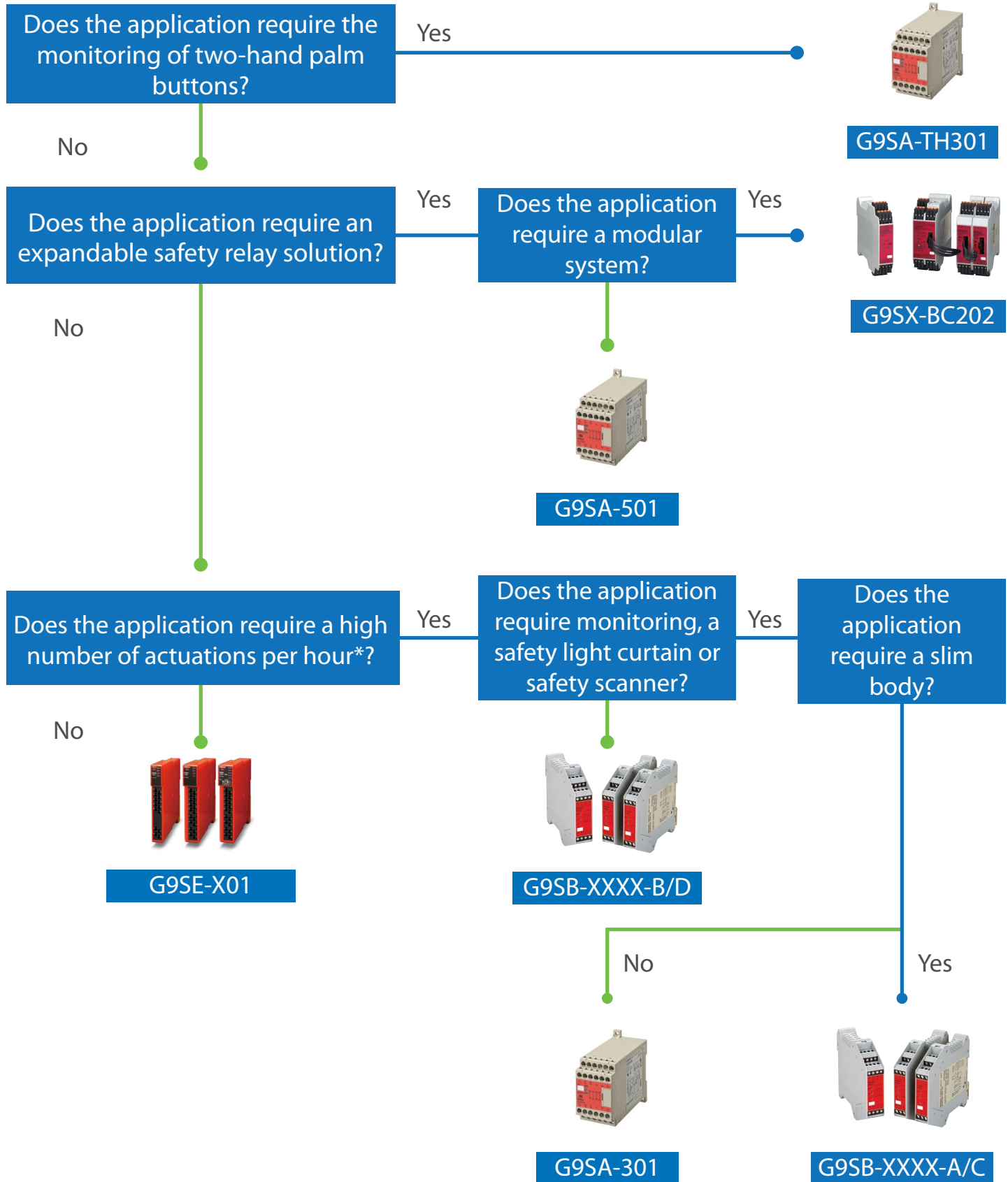
Safety Relays

What type of Safety Relay is required?



Safety Relays

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Suggested Part Numbers

Safety Relays

Model	Popular Part Numbers	Description	Notes
G9SA	G9SA-X01 AC/DC24 G9SA-X01 AC100-240	Monitoring Relay, 24 VAC/VDC or 100-240VAC, Inputs: Dual or single CH Outputs: 301: Main (3PST-NO) and Aux. (SPST-NC) 501: Main (5PST-NO) and Aux. (SPST-NC) Model Compatibility: G9SA-EX	<ul style="list-style-type: none"> •Single or dual channel, or electro-mechanical switch •Ideal for applications where safety devices require high number of actuations per hour •Both DIN track mounting and screw mounting are possible •Fixed terminal blocks, 45mm-wide housing, expansion units are 17.5mm wide •Up to 8 safety contacts •Simple expansion connection available •Expandable outputs: instantaneous or time-delay •G9SA-301/501/321: Safety devices: Emergency Stop, door and safety guarding applications like safety Light Curtains and safety scanners and rope pull •G9SA-TH301: Safety devices : Two Hand Control
	G9SA-321-Txx AC/DC24	Monitoring Relay, 24 VAC/VDC, Inputs: Dual or single CH, W/Time Delay (7.5/15/30s) Outputs: Main (3PST-NO), OFF-delay: (DPST-NO), and Aux. (SPST-NC) Model Compatibility: G9SA-EX	
	G9SA-TH301 AC/DC24 G9SA-TH301 AC100-240	Monitoring Relay, 24 VAC/VDC or 100-240VAC, Input: Dual CH Outputs: Main (3PST-NO) and Aux. (SPST-NC) Model Compatibility: G9SA-EX	
	G9SA-EX301	Expansion unit without time delay Outputs: Main (3PST-NO) and Aux. (SPST-NC) Model Compatibility: G9SA-301, G9SA-501, G9SA-321 & G9SA-TH301.	
	G9SA-301-P DC24	Monitoring Relay, 24 VAC/VDC , Inputs: Dual or single CH, Negative common (NPN) Outputs: Main (3PST-NO) and Aux. (SPST-NC) Model Compatibility: G9SA-EX	
G9SB	G9SB-2002-A AC/DC24	Monitoring Relay, 24 VAC/VDC, Input: Dual (Inverse), Auto Reset Outputs: Main (DPST-NO)	<ul style="list-style-type: none"> •Ideal for applications where safety devices require high number of actuations per hour •Ultra Slim Safety Monitoring Relay Unit, providing 2 safety contacts in a 17.5mm and 3 safety contacts in a 22.5 mm housing •G9SB-200-B/D, G9SB-301-B/D Safety devices: Safety Light Curtain, and safety laser scanners •G9SB-2002-A/C, G9SB-2031-A/C Safety devices: Emergency Stop, door and safety guarding, rope pull * The inverse models cannot be used for OSSD inputs.
	G9SB-200-B AC/DC24	Monitoring Relay, 24 VAC/VDC, Inputs: Dual or single CH (+ Common), Auto Reset Outputs: Main (DPST-NO)	
	G9SB-3012-A AC/DC24	Monitoring Relay, 24 VAC/VDC, Input: Dual (Inverse*), Auto Reset Outputs: Main (3PST-NO) and Aux (SPST-NC)	
	G9SB-301-B AC/DC24	Monitoring Relay, 24 VAC/VDC, Inputs: Dual or single CH (+ Common), Auto Reset Outputs: Main (3PST-NO) and Aux (SPST-NC)	
	G9SB-3012-C AC/DC24	Monitoring Relay, 24 VAC/VDC, Input: Dual (Inverse*), Manual Reset Outputs: Main (3PST-NO) and Aux (SPST-NC)	
	G9SB-200-D AC/DC24	Monitoring Relay, 24 VAC/VDC, Inputs: Dual or single CH (+ Common), Manual Reset Outputs: Main (DPST-NO)	

Suggested Part Numbers

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Model	Popular Part Numbers	Description	Notes
G9SX	G9SX-BC202-RC/RT DC24	Monitoring Relay (Basic), 24 VDC, Inputs: Dual or single CH, Auto or Manual reset. Outputs: Instantaneous Dual (Semi-conductor), Logical Dual (Semi-conductor) and Aux Dual (PNP) Model Compatibility: G9SX-AD, G9SX-EX (Expansion),	<ul style="list-style-type: none"> •G9SX-family modules can be connected by a logical "AND" function to implement partial/global stopping of a machine. •The line-up is completed by expansion units with safe timing functions.
	G9SX-AD322-T15-RT / RC DC24	Monitoring Relay (Advanced), 24 VDC, Inputs: Dual or single CH, Single logical AND input, Auto or Manual reset. Outputs: Instantaneous Triple (Semi-conductor), OFF Delay Dual (Semi-conductor), Logical Single (Semi-conductor) and Aux Dual (PNP) Model Compatibility: G9SX-BC, G9SX-EX (Expansion)	<ul style="list-style-type: none"> •G9SX series terminal block type RC is spring-cage, or RT screw terminals •G9SX-BC: Safety Devices: Emergency Stop, door switches and Safety Light Curtains. Features: Support up to 4 units (G9SX-AD) connected per logical AND output, a total of 5 units in series (G9SX-AD) max by logical AND. •G9SX-AD Safety Devices: Emergency Stop, door switches and Safety Light Curtains, Features: Support up to 4 units (G9SX-AD) connected per logical AND output, a total of 5 units in series (G9SX-AD) max by logical AND.
	G9SX-EX401-RC/RT DC24	Expansion unit, without time delay Outputs: Main (4PST-NO) Model Compatibility: G9SX-AD, G9SX-ADA.	<ul style="list-style-type: none"> •G9SX-BC/AD/ADA: 20 units max using both Basic and Advanced units
	G9SX-SM032-RT	Monitoring Relay Standstill, 24 VDC, Inputs: Dual EDM, Dual Standstill detection. Outputs: Triple Standstill Detection(Semi-conductor) and Aux Dual (PNP) Model Compatibility: None	<ul style="list-style-type: none"> •Modules G9SX-SM032-RT and G9SXM-LM224-F10-RT outputs are 0.3A, consider adding force guided relays as part of the system. •G9SX-SM: Sensor-less Monitoring of Standstill for Machines with Long Inertia. Standstill is monitored by the motor's back electromotive force (BEMF) signal. Standstill detection up to 480VAC, single or 3 phase motor. Maximum 120HZ, response time is 50ms.
	G9SX-LM224-F10-RT	Monitoring Relay Low-Speed, 24 VDC, Inputs: Dual Enabling, Dual Safety, Single Logical AND, Mode Selection, Rotation Direction, Auto or Manual reset. Outputs: Dual Safety Instantaneous (Semi-conductor), Dual Speed Detection (Semi-conductor), Dual Speed Detection Instantaneous (Semi-conductor) and Aux Monitor Instantaneous, error, Monitor Speed Detection, Monitor Mode (PNP) Model Compatibility: G9SX-EX, E2E sensors	<ul style="list-style-type: none"> •G9SX-LM: Motor rotation speed detected by Proximity Sensor and includes an enable switch input with led indicators. Low speed monitoring maximum threshold is 10Hz, Max. frequency is 1KHz
	G9SX-NS202-RT/RC DC24	Monitoring Relay (Basic), 24 VDC, Inputs: Single CH (Non-contact Door Switch), logical AND input, Auto or Manual reset. Outputs: Instantaneous Dual (Semi-conductor), Logical Single (Semi-conductor) and Aux Dual (PNP) Model Compatibility: None	<ul style="list-style-type: none"> •Intended to be used specifically with D40A and D40Z Non-Contact door monitoring switches. •A single unit can handle up to 30 D40A's or D40Z's daisy chained.
	G9SX-NSA222-T03-RT DC24	Monitoring Relay (Advanced), 24 VDC, Inputs: Single CH (Non-contact Door Switch), Dual Safety input, logical AND input, Auto or Manual reset. Outputs: Instantaneous Dual (Semi-conductor), OFF Delay Dual (Semi-conductor), Logical Single (Semi-conductor) and Aux Dual (PNP) Model Compatibility: G9SX-EX	<ul style="list-style-type: none"> •Intended to be used specifically with D40A and D40Z Non-Contact door monitoring switches and mechanical safety door switches and Off Delay •A single unit can handle up to 30 D40A's or D40Z's daisy chained.

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Model	Popular Part Numbers	Description	Notes
G9SE	G9SE-201	Monitoring Relay, 24 VDC, Inputs: Dual or single CH, Auto or Manual reset. Outputs: Dual Safety (DPST-NO) and Aux Single (PNP)	•Compact units, 17.5 or 22.5 mm wide, front side wiring using screw less terminals and led indicators for fast diagnostic.
	G9SE-401	Monitoring Relay, 24 VDC, Inputs: Dual or single CH, Auto or Manual reset. Outputs: Dual Safety (4PST-NO) and Aux Single (PNP)	•Modules with two or four safety contacts and OFF-delay timing are available on slim-size housing. •Safety Devices: E-Stop, door, Safety Light Curtains
	G9SE-221-TXX DC24	Monitoring Relay, 24 VDC, Inputs: Dual or single CH, Auto or Manual reset. Outputs: Dual Safety Time Delay (4PST-NO) and Aux Single (PNP)	•G9SE-221-T05: Time Delay OFF 0–5 sec •G9SE-221-T30: Time Delay OFF 0–30 sec
SR1	44510-1031	Monitoring Relay, 24 VAC/VDC, Inputs: Dual or single CH, Auto or Manual reset. Outputs: Main (3PST-NO) and Aux (SPST-NC)	•Safety Devices: single or dual-channel emergency stop circuits and guard monitoring, Safety Light Curtains and Safety Scanners. •Ideal for applications where safety devices require high number of actuations per hour

* Why do I need to consider actuation per hour when selecting a safety relay?

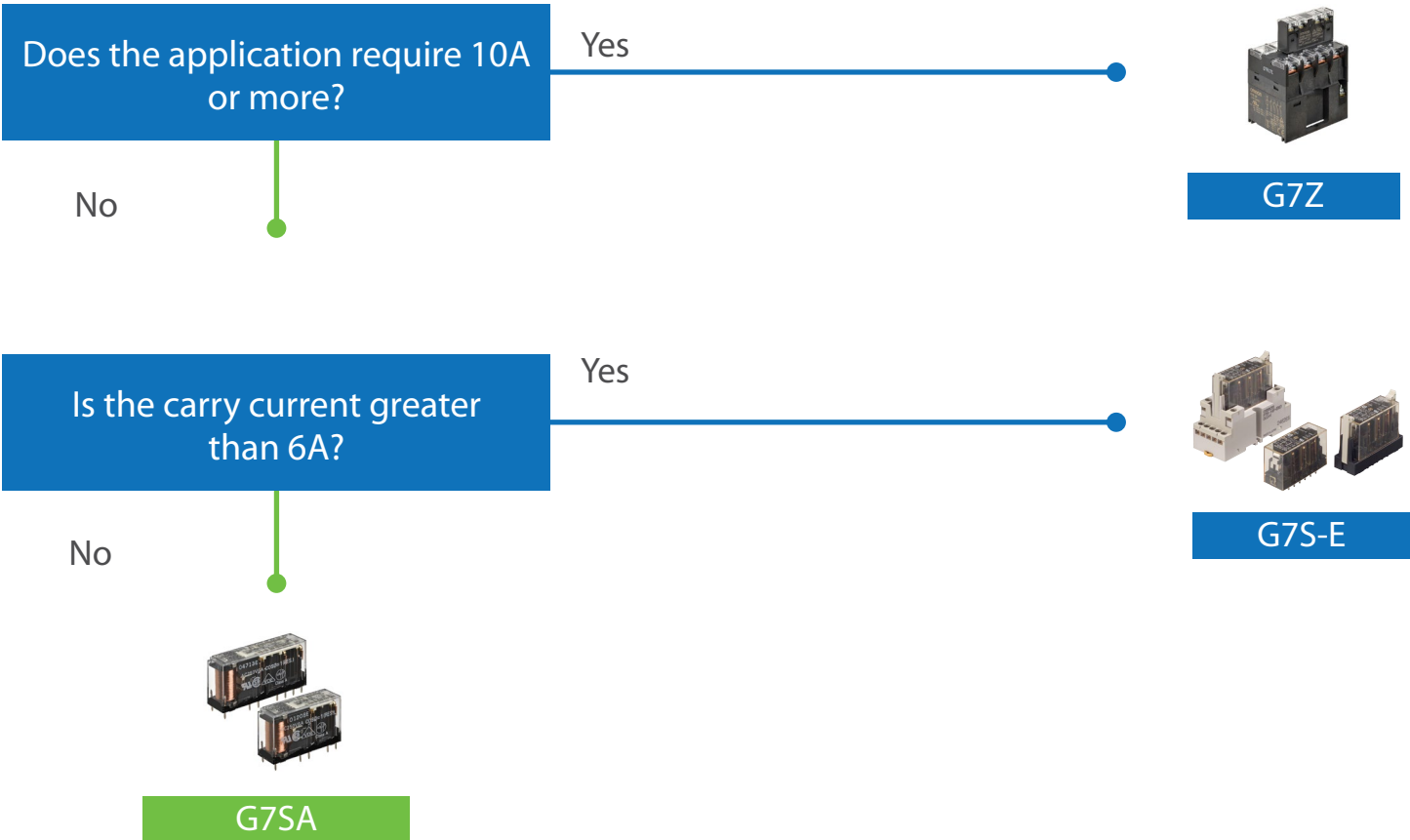
Different safety relay families offer a different specifications for mechanical and electrical durability. By keeping this in mind during your selection, you can easily select a safety relay that will last for your application.

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Safety Relays

Model	Popular Part Numbers	Description	Notes
G9SP	G9SP-N10S	Controller, 24 VDC, Inputs: 10 Safety Outputs: 4 safety outputs (Solid State), 4 Test	•Stand-alone programmable safety controller for small and mid-sized machinery.
	G9SP-N20S	Controller, 24 VDC, Inputs: 20 Safety Outputs: 8 safety outputs (Solid State), 6 Test	•Safety Devices: Supports direct connection with non-contact switches and safety mats, E-Stop, door switches, safety mats and edges, non-contact door switches and safety guarding applications like safety Light Curtains and safety scanners
	CP1W-20EDT	Expansion I/O unit, 12 inputs and 8 solid state outputs.	•Memory cassette for easy duplication of configuration
	CP1W-CIF41	EtherNet/IP Interface Option Board for G9SP	•Clear diagnosis and monitoring via Ethernet (Omron FINS protocol), EtherNet/IP, or Serial (RS-232) connection Option boards

Force Guided Relays



Suggested Part Numbers

Force Guided Relays

Model	Popular Part Numbers	Description	Notes
G7SA	G7SA-2A2B DC24	Safety Relay, 24 VDC Coil, 6A, 4 pole: DPST-NO and DPST-NC	<ul style="list-style-type: none"> •Relays with forcibly guided contacts (EN 50205 Class A, certified by VDE). •Slim profile (with or without 24 VDC indicator) •G7SA Coil Rated Voltage: 12/18/21/24/48/110 VDC •Sockets are sold separately, DIN Rail/Panel mount (Screw or Push-in plus terminals) and PCB mounting.
	G7SA-3A1B DC24	Safety Relay, 24VDC Coil, 6A, 4 pole: 3PST-NO and SPST-NC	
	G7SA-3A3B DC24	Safety Relay, 24VDC Coil, 6A, 6 pole: 3PST-NO and 3PST-NC	
	G7SA-4A2B DC24	Safety Relay, 24VDC Coil, 6A, 6 pole: 4PST-NO and DPST-NC	
	G7SA-5A1B DC24	Safety Relay, 24VDC Coil, 6A, 6 pole: 5PST-NO and SPST-NC	
	P7SA-10F-ND DC24	Socket, DIN Rail or panel mount, With LED indicator, Screw Terminals (For 4 pole relays)	
	P7SA-10F-ND-PU DC24	Socket, DIN Rail mount, With LED indicator, Push-in Plus (For 4 pole relays)	
	P7SA-14F	Socket, DIN Rail or panel mount, No LED indicator, Screw Terminals (For 6 pole relays)	
	P7SA-14F-ND DC24	Socket, DIN Rail or panel mount, With LED indicator, Screw Terminals (For 6 pole relays)	
	P7SA-14F-ND-PU DC24	Socket, DIN Rail or panel mount, With LED indicator, Push-in Plus (For 6 pole relays)	
G7S_-E	G7S-4A2B-E DC24	Safety Relay, 24 VDC Coil, 10A (NO) 6A (NC), 6 pole: 4PST-NO and DPST-NC	<ul style="list-style-type: none"> •Plug-in relays with forcibly guided contacts (EN 50205 Class A, certified by VDE). •Sockets are sold separately, PCB and Rail mount version
	G7S-3A3B-E DC24	Safety Relay, 24 VDC Coil, 10A (NO) 6A (NC), 6 pole: 3PST-NO and 3PST-NC	
	P7S-14F-END DC24	Socket, DIN Rail mount, Screw terminal	
G7Z	G7Z-2A2B-11Z-R DC24V	Safety Relay, 24 VDC Coil, 40A (NO) 25A (NC), Main: 4 pole: DPST-NO/DPST-NC Aux: SPST-NO/SPST-NC	<ul style="list-style-type: none"> •Ideal for supply power to industrial inverters, servo drivers, and other devices, and switching power to motors and other equipment. •All part numbers refers to relay with auxiliary contact block •EN 60947-4-1 certification for mirror contact
	G7Z-3A1B-11Z-R DC24V	Safety Relay, 24 VDC Coil, 40A (NO) 25A (NC), Main: 4 pole: 3PST-NO/SPST-NC Aux: SPST-NO/SPST-NC	
	G7Z-4A-11Z-R DC24V	Safety Relay, 24 VDC Coil, 40A (NO) 25A (NC), Main: 4 pole: 4PST-NO Aux: SPST-NO/SPST-NC	
	G7Z-4A-20Z-R DC24V	Safety Relay, 24 VDC Coil, 40A (NO) 25A (NC), Main: 4 pole: 4PST-NO Aux: DPST-NO	

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