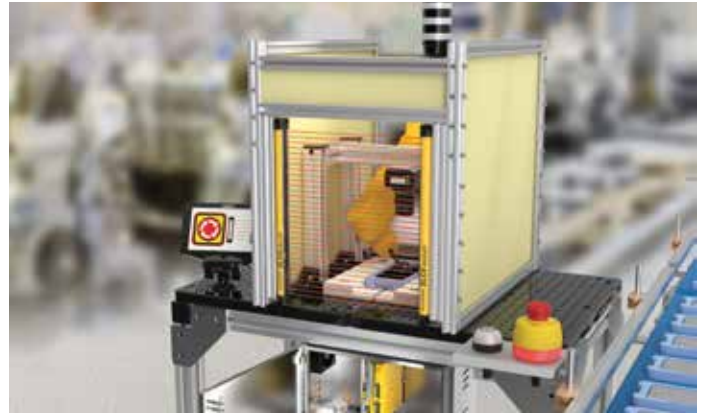


Safety Relays and Safety Controllers

Configurable controllers monitor multiple safety devices

Industrial safety controllers and relays provide an interface between safety devices and the machines and processes those devices monitor for a complete and easy-to-use safety control solution.



Safety controllers can be tailored for a wide variety of machines, including machines with multiple processes.

Safety Relays



Cost-effective for simple safety circuits

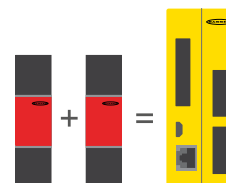
- Preset Functionality: Configuration not required
- Safety Inputs: 1
- Independently controlled Safety Outputs: 1; 4 to 7A

Hybrid Safety Controller plus 2 Safety Relays



Flexible and cost-effective solution for machines typically using 2 Safety Relays

- PC Configurable: Flexible and easy-to-use
- Safety Inputs: up to 10; up to 14 using Automatic Terminal Optimization (ATO)
- Independently controlled Safety Outputs: 2; 6A each
- Convertible Safety Inputs: 4
- Terminal LEDs for easy troubleshooting
- Industrial Ethernet



Safety Relays and Safety Controllers



Various safety devices are monitored, such as E-stop buttons, safety switches, safety light screens, two-hand controls and rope pull switches.

Connect safety devices easily to the safety controller

- Universal input safety relays
- E-Stop monitoring safety relays
- Muting safety relays
- Safe speed monitoring relays
- Safety mat relays
- Safety extension relays



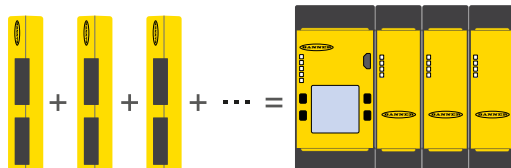
Expandable Safety Controller



XS26

Expandable for complex safety applications where 3 or more safety relays are typically used

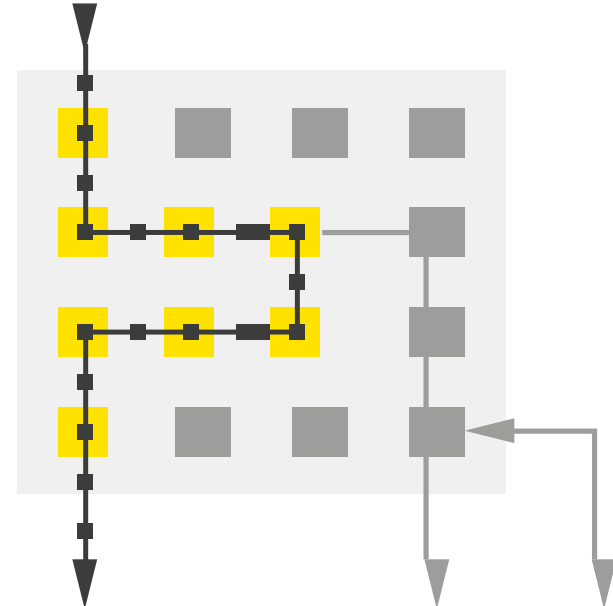
- PC Configurable: Flexible and easy-to-use
- Safety Inputs: 26 (base unit) up to 154
- Independently controlled Safety Outputs: up to 68; 0.5A to 6A each
- Convertible Safety Inputs: 8 (Base Unit) up to 40
- LCD Display for easy troubleshooting
- Industrial Ethernet



E-Stop Light Curtain Safety Mat 2-Hand Control Rope Pull



Safety Input



Safety Output

Standard Output



Build System and Select Equipment

The feature-rich SC10 and SC/XS26 safety controller software provides a seamless user interface for setting up and managing safety systems. The software features an intuitive icon-based, drag-and-drop user interface to reduce the learning curve and speed up commissioning.

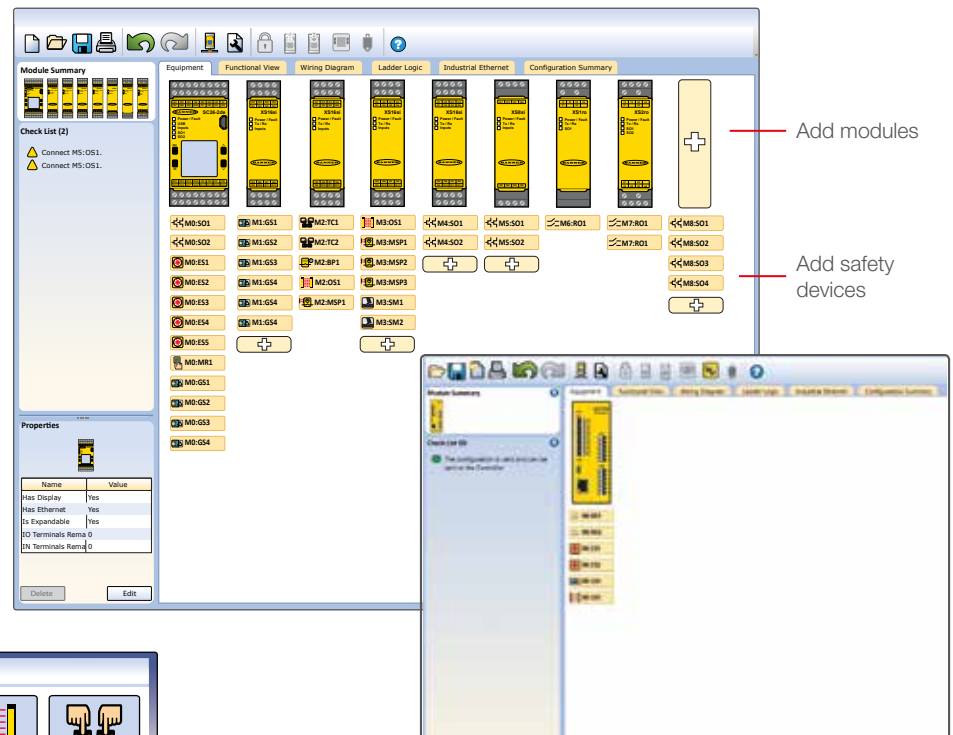
- Complex configurations made easy
- Simulate configurations before implementation
- Auto configure Industrial Ethernet for remote monitoring and diagnostics

Start using the free software today. Go to www.bannerengineering.com/safetycontroller

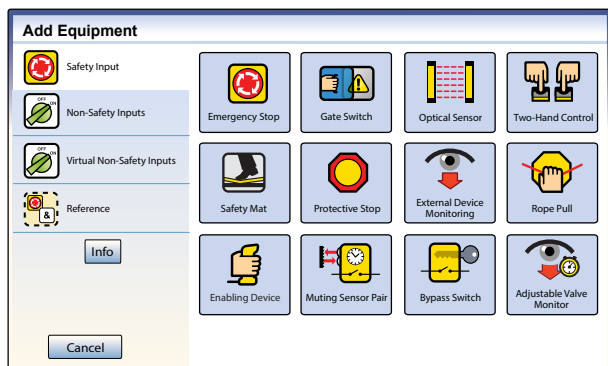
1. Choose Controller



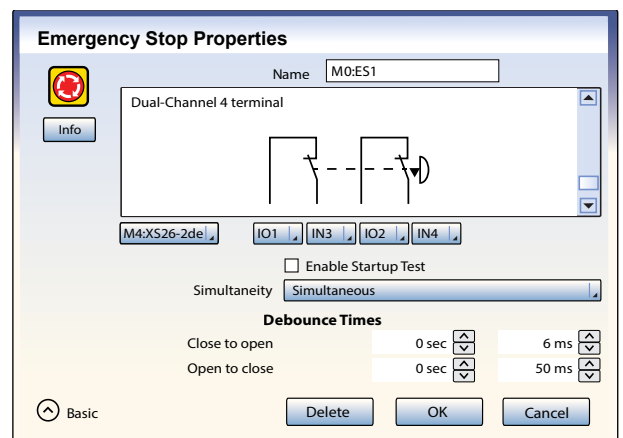
2. Equipment View



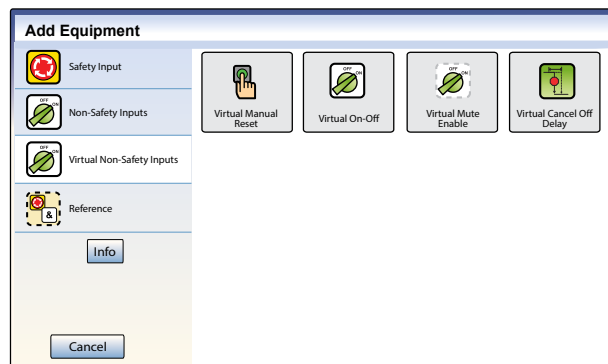
3. Add safety devices



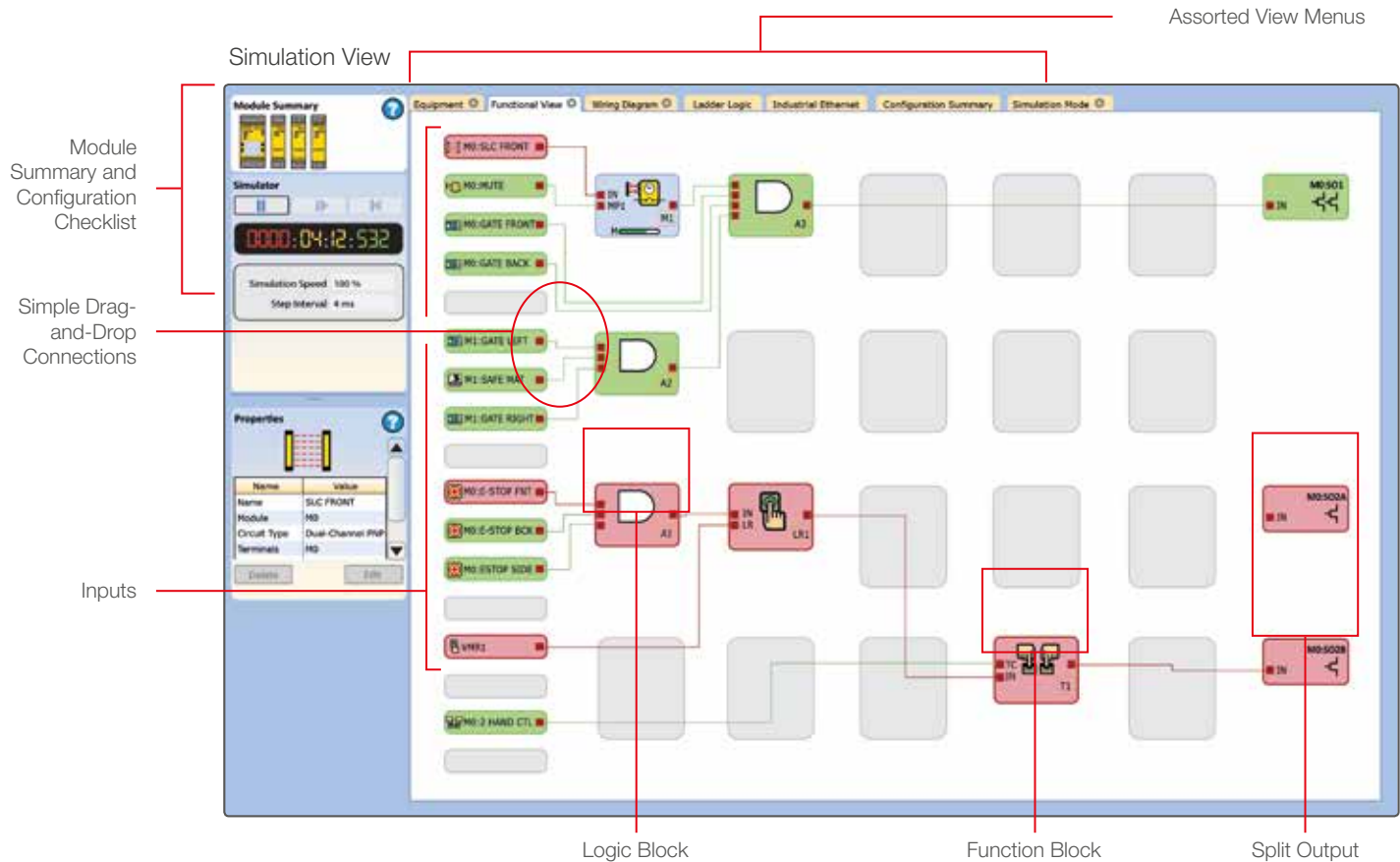
4. Select safety device properties



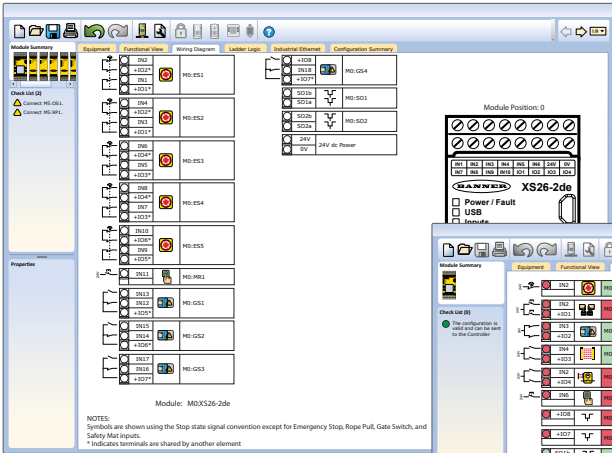
5. Add virtual non-safety inputs



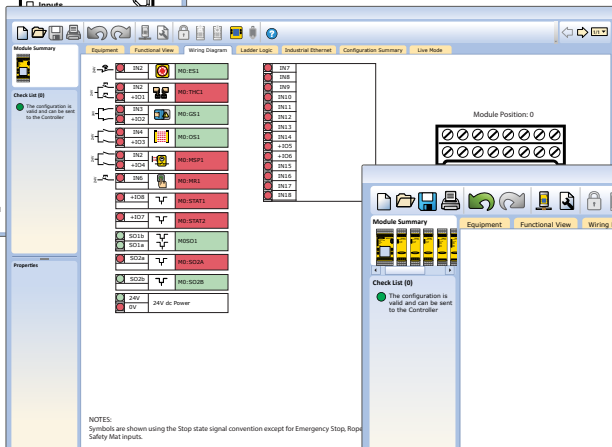
Configure your system in minutes



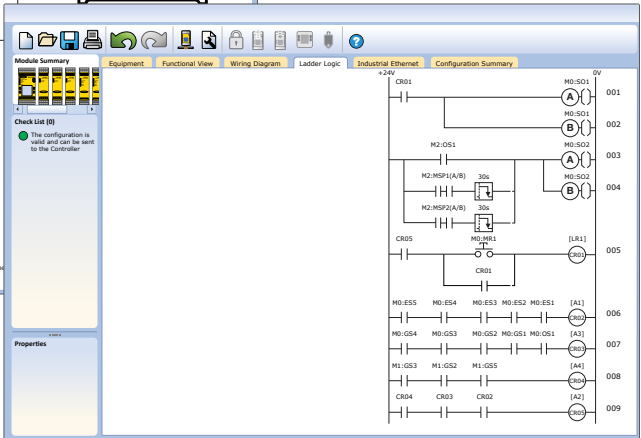
Wiring Diagram



Wiring Diagram in Live Mode

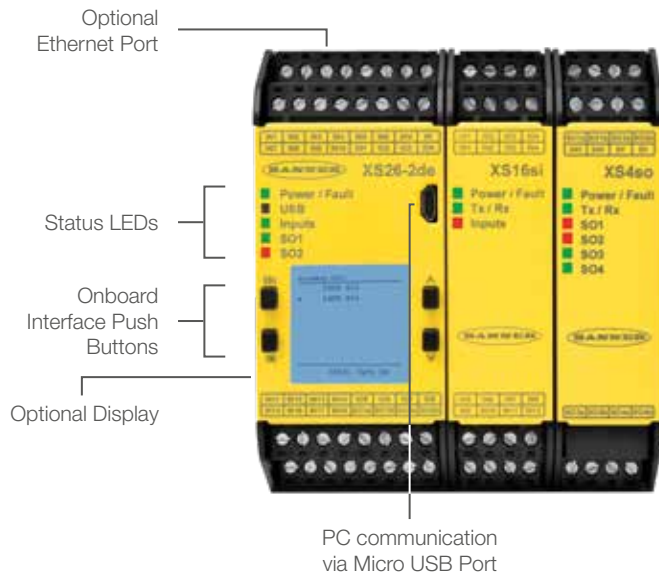


Ladder Logic



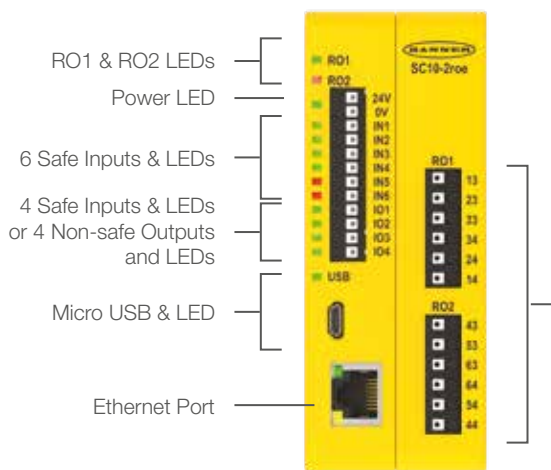
Safety Controllers

XS26 Expandable Safety Controller

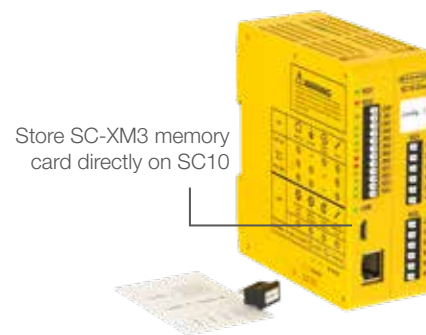


- Optional display screen allows local diagnostics for efficient troubleshooting
- Up to eight expansion I/O modules can be added as automation requirements grow or change
- Choose from six expansion module models with a variety of safety inputs, solid-state safety outputs and safety relay outputs
- Controller and input modules allow safety inputs to be converted to status outputs for efficient terminal use

SC10 Safety Controller with SC-XM3 Programming



- 2x 6A independently controlled relays (RO1 and RO2)
- 3 NO sets of contacts each



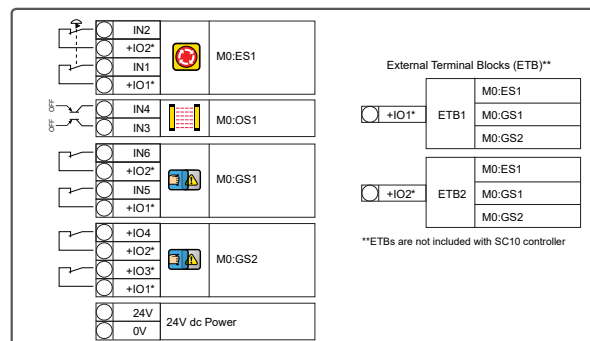
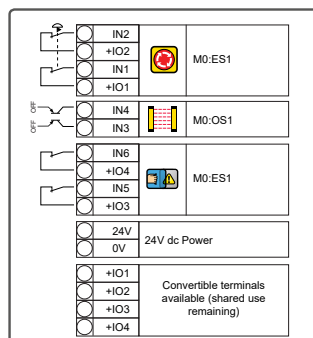
SC-XM3 Fast Programming and Swapout

- Backup copy of configuration, password, network settings
- Download configuration without a PC; save time during panel build
- Fast swapout to minimize downtime at swapout

Automatic Terminal Optimization (ATO)

- Allows for an increase from 10 to 14 inputs

Wire Diagram View for 10 Inputs without ATO



Wire Diagram View for 14 Inputs with ATO

**ETBs are not included with SC10 controller

Safety Controllers – Models

XS26 Safety Controllers



Model (24V dc)	Description	Housing H x W x D (mm)	Inputs/ Convertible	Independently Controlled Safe Outputs	Maximum Safety Output Rating
XS26-2d XS26-2de	Base Controller, expandable, with LCD	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc
XS26-2 XS26-2e	Base Controller, expandable	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc
XS8si	Safety Input Module	W: 22.5 mm	8/2	/	/
XS16si	Safety Input Module	W: 22.5 mm	16/4	/	/
XS2so	Safety Output Module	W: 22.5 mm	/	2 Dual Channel PNP	0.75A @ 24V dc
XS4so	Safety Output Module	W: 22.5 mm	/	4 Dual Channel PNP	0.5A @ 24V dc
XS1ro	Safety Relay Output Module	W: 22.5 mm	/	1 Dual Channel Relay	6A; 2 NO, 1 NC Aux
XS2ro	Safety Relay Output Module	W: 22.5 mm	/	2 Dual Channel Relays	6A; 2x 2 NO, 2x 1 NC Aux

SC26 Safety Controllers



Model (24V dc)	Description	Housing H x W x D (mm)	Inputs/ Convertible	Independently Controlled Safe Outputs	Maximum Safety Output Rating
SC26-2d SC26-2de	Base Controller, non- expandable, with LCD	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc
SC26-2 SC26-2e	Base Controller, non- expandable	110 x 45 x 128	26/8	2 Dual Channel PNP	0.5A @ 24V dc

SC10 Safety Controllers



Model (24V dc)	Description	Housing H x W x D (mm)	Inputs/ Convertible	Independently Controlled Safe Outputs	Maximum Safety Output Rating
SC10-2roe	Base Controller	115 x 45 x 100	10/4	2 Dual Channel Relays	2x 3 NO: 6A 250V ac/24V dc

Accessories



SC-USB2
■ USB Cable



SC-XM2
■ Memory Card for
XS26 and SC26



SC-XM3
■ Memory Card for
SC10



SC-XMP2
■ SC-XM2/3
Configuration Tool

Relay and Controller Selection

Choose a safety relay or safety controller.

- Configurable (expandable) safety controllers
- Preconfigured safety relay modules



GM/ES

UM



		GM/ES	UM	
Self Testing Safety Device			✓	
Self Testing Safety Device with EDM Function			✓	
E-Stop		✓	✓	
Rope Pull		✓	✓	
Gate Switch		✓	✓	
RFID Gate Switch			✓	
Safety Mat Monitoring				
Two-Hand Control				
Enabling Device		✓	✓	
Extension Contacts				
Speed Monitoring				
Muting				
ON/OFF Delay				
Safety Standard				
Inputs		1 NC & 1 NO (single or dual) 1 NC (single) 2 NC (dual)	1 NC (single) or 2 NC (dual) or 2 PNP	
Safety Outputs		2 NO / 3 NO / 4 NO	3 NO or 2 NO	
Maximum Safety Output Rating		6A / 7A	7A	
Auxiliary Outputs		1 NC or 1 NC & 2 PNP	1 NC, depending on model	
Power Supply		24V ac/dc 115V ac & 12-24V dc or 230V ac & 12-24V dc	24V ac/dc	

Preconfigured Safety Relay Modules								Configurable Controllers	
SM	AT	MMD	SSM	SR	IM	EM	SC10	SC26/XS26	
									
			✓				✓	✓	
			✓		✓	✓	✓	✓	
			✓ (secondary function)				✓	✓	
			✓ (secondary function)				✓	✓	
			✓				✓	✓	
			✓				✓	✓	
	✓						✓	✓	
		✓					✓	✓	
							✓	✓	
						✓		✓	
				✓					
			✓				✓	✓	
						OFF Delay available	✓	✓	
Cat. 4 PL e, per EN ISO 13849-1; SIL 3 per IEC 61508 and IEC 62061									
	1 (or multiple in series) 4-wire safety mat	2 STB or buttons with complementary contacts	2 NC muteable (dual) & 2 NC SSI (dual)	2 PNP	2 NC (dual) or 2 PNP	2 NC (dual) or 2 PNP	1 NC (single) or 2 NC (dual)	10	SC26: up to 26 XS26: up to 154
	4 NO	2 NO	2 PNP OSSD or 2 NO	2 NO	2 NO / 3 NO	2 NO / 3 NO	4 NO or 4 NO with delay	2x 3 NO	SC: 2 XS: up to 68
	6A	6A	6A	4A	6A	6A	6A	6A each	0.5A each
	1 NC & 2 PNP	/	1 PNP or 1 NC	1 NC	1 NC	1 NC, depending on model	/	depending on configuration	depending on configuration
	115V ac & 12-24V dc or 230V ac & 12-24V dc	24V ac/dc	24V dc	24V dc	24V dc	24V dc	24V dc or 24V ac/dc, depending on model	24V dc	24V dc