

PACSafe Configurable Safety Controllers

Intuitive, Integrated, and Fast Machine Safety

Designed with Original Equipment Manufacturers and their end-users in mind, PACSafe Configurable Safety Controllers are perfect for machine automation applications requiring integrated SIL3 machine safety with multiple coordinated safety sensors for a variety of industries like packaging, food and beverage, life sciences, and manufacturing. The PACSafe Configurable Safety Controllers easily scales from small to complex machines and provides an intuitive graphical-based interface for configuration and programming, easy integration to Emerson's PACSystems and VersaMax controllers over Industrial Ethernet, and fast safe state reaction times. These qualities result in reduced development and commissioning times and smaller overall machine sizes – leading to higher productivity and profitability.

Intuitive Programming

With intuitive, icon-based programming, drag-and-drop configuration, and integrated online help, programming your safety solution has never been easier. An extensive library of TÜV-certified SIL3 function blocks allow for the quick integration of e-stops, interlock gates, optical sensors, two-hand controls, safety mats and many more safety devices. Built-in system simulation tools, online monitoring and live diagnostics capabilities create a user-friendly commissioning and troubleshooting process.

Integrated Safety Solutions

PACSafe Configurable Safety Controller development tools are integrated and delivered within our PAC Machine Edition (PME) development suite. Built-in Ethernet with support for PROFINET and Modbus/TCP protocols and new standard PLC integration function blocks allow for seamless monitoring and integration with the rest of the Emerson industrial controls portfolio. This ensures that you can easily integrate machine safety into new designs or your existing PACSystems or VersaMax architectures.



Fast Time to Safe State

PACSafe Configurable Safety Controllers combine the advantages of an expandable design with the fast performance of non-configurable relays. With system safe state reaction times as fast as 15ms, you'll no longer have to choose between performance and flexibility.

Scalable Safety Solutions

With models of 10 and 26 integrated safety inputs and optional expansion safety I/O modules, PACSafe users have the flexibility to scale their solutions to as many as 154 safety I/O points. Six different types of expansion I/O modules provide a variety of safety functions including safety inputs, solid-state safety outputs and safety relay outputs. All these modules allow safety inputs to be converted to status outputs for added application flexibility. With the available 80 configurable virtual non-safe inputs and 256 configurable virtual non-safe status outputs, you can keep your entire control solution coordinated with ease.

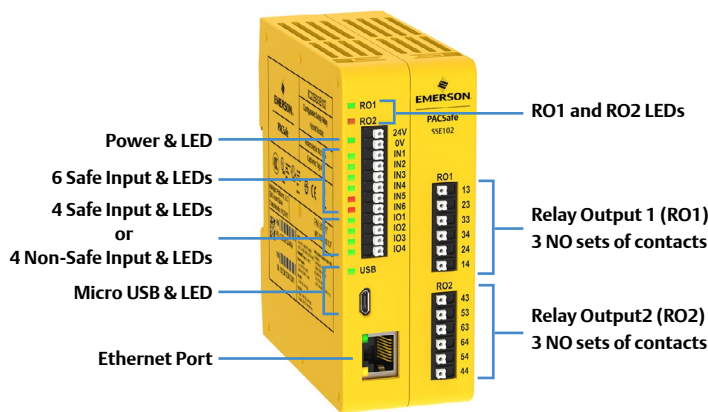
Features and Indicators

PACSafe Configurable Safety Controllers



- Flexible and intuitive icon-based programming with drag-and-drop configuration
- Pre-configured safety function blocks to simplify application programming
- Twenty-six inputs, including eight that can be used as non-safe outputs
- Two OSSD* outputs, each can be split into two single-channel safety outputs
- Expandable models for adding up to 8 additional I/O modules
- Standard Industrial Ethernet, optional LCD Display, and accessories for full customization






PACSafe Configurable Safety Controller with Relay Outputs



- Same intuitive, icon-based programming with drag-and-drop configuration as the larger Sxx262 models in a compact footprint
- Ten inputs, including four that can be used as non-safe outputs
- Two six-amp safety relay outputs, each with three N.O. sets of contacts
- Automatic Terminal Optimization (ATO) can increase the inputs from 10 to up to 14
- Standard Industrial Ethernet two-way communication
- External drive for fast swap and quick configuration without a PC

Specifications

PACSafe Configurable Safety Controllers

	IC225SXF262	IC225SXE262	IC225SSF262	IC225SSE262	IC225SSE102
Expandable	Yes – up to 8 Expansion Modules			No	
LCD Display	Yes	No	Yes	No	
Safety Module Type	Base Controller				
Dimension (mm)	110H x 45W x 129D				115H x 45W x 100D
Certifications and Compliance	    				
Relative Humidity	90% @ 50° C				
Max Operating Temperature	55° C				
Input Operation	Simultaneous or Concurrent				
Number of Safe Inputs	26				10
Input Configuration	Configurable				
Number of Convertible Inputs	8				4
Safety Input - Dual Channel (Dry Contact)	5-50 mA @ 24 VDC (Initial contact closure current is 50mA for contact cleaning that reduces to 5mA)				
Safety Input - Dual Channel (Solid-State)	50 mA @ 15 – 30 VDC				
Safety Input - Reset	5-50 mA @ 24 VDC				
Independently Controlled Safe Outputs	4				2
Output Configuration	2 OSSD Pairs				2 sets of 3 N.O.
Non-Safe Output Configuration	Up to 11 PNP				Up to 4 PNP
Non-Safe Output Rating	80 mA @ 24 VDC (individual) max for IOx; overcurrent protected 500 mA @ 24 VDC for SOx; overcurrent protected Note: IOx Inputs can be configured as status outputs & SOx reassigned as status output				80 mA @ 24 VDC (individual) max; overcurrent protected
Safe Output Rating	OSSD 0.50 A max. @ 24 VDC OSSD = Output Solid State Device (PNP Source) Pulse Test: OSSD pair turn on within 5ms; 200uS max Test Pulses				N.O. Relay - 6 A 250VAC or 24VDC
Splittable Safe Output	Yes				No
Mechanical Life	N/A				20 Million Operations
24VDC +/- 20% Power Consumption	0.16 A (controller only)				0.24 A (no load, relays off), 0.53 A (full load, relays on)
Response Time (ms)	Varies with Configuration				
Supply Voltage	24 VDC +/- 20%				
Terminal Type	Screw (Spring Clamp available as an accessory)				Spring Clamp
Removable Terminals	Yes				NO
Vibration	9-150 Hz at 1g occasional/0.5g continuous				
Electrical Life	N/A				50,000 cycles @ full resistive load
IP Rating	IP20				
Safety Certifications	Category 4, PL e (EN ISO 13849), SIL CL 3 (IEC 62061, IEC 61508)				
SISTEMA value	PFHd = 1.05 x 10 ⁻⁹				PFHd = 5.0 x 10 ⁻¹⁰
THC Rating (Two Hand Control)	IIIC				

	IC225XF262	IC225XE262	IC225SF262	IC225SE262	IC225SE102
THC Rating (Two Hand Control)	IIC				
Safety Input - Single Channel	5-50 mA @ 24 VDC				
Input Resistance	150 Ω max. per lead				
E-Stops/Rope Pulls	Yes				
Motor Speed	No				
Safety Mat	Yes				
Two-Hand Controls	Safety Controller				Yes
Input Recovery Time	250mS (typical), 400mS (max)				
Muting	Yes				
Gate Switch (NC/NC) Input	Yes				
Gate Switch (NC/NO) Input	Yes				
Gate Switch (OSSD*) Input	Yes				
Light Curtains/Scanner with EDM Input	Yes				
Light Curtains/Scanner without EDM Input	Yes				
Modbus/TCP	Yes				
PROFINET	Yes				

Safety I/O Expansion Modules

	IC225SDD841	IC225SDD842	IC225SDL720	IC225SDL740	IC225SDL910	IC225SDL920
Module Type	Input	Input	Solid State Output	Solid State Output	Relay Output	Relay Output
Dimension (mm)	110H x 22.5W x 129D					
Relative Humidity	90% @ 50° C					
Max Operating Temperature	55° C					
Input Operation	Simultaneous or Concurrent					
Safety Inputs	8	16	-			
Input	Configurable					
Convertible Inputs	2	4	-			
	When used as 24V for dry contacts, IOx Outputs generate test pulses.		-			
Safety Input (Dry Contact)	5-50 mA @ 24 VDC EA (Initial contact closure current is 50mA for contact cleaning that reduces to 5mA)		-			
Safety Input (Solid-State)	50 mA @ 15 - 30 VDC EA		-			
Independently Controlled Safe Outputs	-	-	4	8	1	2
Output Configuration	-		2 OSSD Pairs	4 OSSD Pairs	2 NO	2 sets of 2 NO
Non-Safe Output Configuration	Up to 2 PNP	Up to 4 PNP	Up to 4 PNP	Up to 8 PNP	1NC	2 separate NC
Non-Safe Output Rating	80 mA max @ 24 VDC (individual); overcurrent protected		-			
Safe Output Rating			OSSD 0.75 A max. @24 VDC	OSSD 0.50 A max. @24 VDC	Relay: 2 NO 6A & 1 NC 2.5A 240VAC/24VDC	Relay: 4 NO, 6A; 2 NC, 2.5A 240VAC/24VDC
Splittable Safe Output	No		Yes		No	

Expansion I/O con't	IC225SDD841	IC225SDD842	IC225SDL720	IC225SDL740	IC225SDL910	IC225SDL920
24VDC +/- 20% Power Consumption	0.07 A (no load); 0.23 A (full load)	0.09 A (no load); 0.41 A (full load)	3.075 A (external load maximum)	4.1 A (external load max)	0.125 A (outputs on)	0.15 A (outputs on)
Response Time	Varies with Configuration					
Terminal Type	Screw (Spring Clamp available as an accessory)					
Removable Terminals	Yes					
Vibration	9-150 Hz at 1g occasional/0.5g continuous					
IP Rating	IP20					
Safety Certifications	Category 4, PL e (EN ISO 13849), SIL CL 3 (IEC 62061, IEC 61508)					
SISTEMA	PFHd = 4 x 10 ⁻¹⁰		PFHd = 5.8 x 10 ⁻¹⁰		PFHd = 7.6 x 10 ⁻¹⁰	
THC Rating	IIIC					
Safety Input - Single Channel	5-50 mA @ 24 VDC		-			
Input Resistance	150 Ω max. per lead		-			
Input Recovery Time	250ms (typical), 400ms (max)		-			
E-Stops / Rope Pulls	Yes		-			
Safety Mat	Yes		-			
Motor Speed	No		-			
Two-Hand Controls	Yes		-			
Muting	Yes		-			
Gate Switch (NC/NC) Input	Yes		-			
Gate Switch (NC/NO) Input	Yes		-			
Gate Switch (OSSD*) Input	Yes		-			
Light Curtains/Scanner with EDM Input	Yes		-			
Light Curtains/Scanner without EDM Input	Yes		-			

*OSSD – Output Solid State Device

Ordering Information

Part Number	Description
Configurable Safety Controllers	
IC225SXF262	PACSafe Configurable Safety Controller, Expandable with display. Base unit has 26 safety inputs and 2 pairs of PNP safety outputs. Ethernet
IC225SXE262	PACSafe Configurable Safety Controller, Expandable, No display. Base unit has 26 safety inputs and 2 pairs of PNP safety outputs. Ethernet
IC225SSF262	PACSafe Configurable Safety Controller, Standalone with display, Non-expandable, 26 safety inputs and 2 pairs of PNP safety outputs. Ethernet
IC225SSE262	PACSafe Configurable Safety Controller, Standalone, No display, Non-expandable, 26 safety inputs and 2 pairs of PNP safety outputs. Ethernet
IC225SSE102	PACSafe Configurable Safety Controller Standalone, In-Series Diagnostics (ISD) Compatible; 10 Safety Inputs, 2 relay outputs. Ethernet
Safety I/O Expansion Modules for use with SXF262 & SXE262	
IC225SDD841	PACSafe Safety Input Module 24VDC, 8 inputs, 2 convertible
IC225SDD842	PACSafe Safety Input Module 24VDC, 16 inputs, 4 convertible
IC225SDL720	PACSafe Safety Output Module, Solid State 24VDC, 2 pairs of PNP Safety Outputs (0.75 Amp each)
IC225SDL740	PACSafe Safety Output Module, Solid State 24VDC, 4 pairs of PNP Safety Outputs (0.5 Amp each)
IC225SDL910	PACSafe Safety Relay Output Module, 2 NO, 6 A; Aux Outputs: 1 NC, 6 A
IC225SDL920	PACSafe Safety Relay Dual Output Module, 4 NO, 6 A; Aux Outputs: 2 NC, 6 A
Accessories	
IC225CBL001	PACSafe Control Safety Controller USB to Micro USB Programming Cable for programming SXF, SXE, SSF & SSE Controllers. 6'
IC225ACC001	PACSafe External Program Memory to load-store-compare programs in SXF, SXE, SSF & SSE Controllers without a PC. Qty 1 with label
IC225ACC002	PACSafe External Program Memory converter to PC USB. Allows connection of PACSafe External Program Memory to standard PC USB ports.
IC225STB008	Replacement Screw Type terminals for the XS26 or SC26 base units. Qty 4
IC225STB004	Replacement Screw Type terminals for the XS Expansion Modules. Qty 4
IC225STS008	Replacement Spring Clamp Style terminals for the XS26 or SC26 base units. Qty 4
IC225STS004	Replacement Spring Clamp Style terminals for the XS Expansion Modules. Qty 4
IC225DEM001	PACSafe SXF262 Demo Kit

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