Safety automation system solutions

Preventa™ safety relay modules type XPSAFL

For Emergency stop, switch and light curtain monitoring

Operating principle

Safety modules XPSAFL are designed to conform with category 3 of the standard EN 954-1. They are used for:

■ Monitoring Emergency stop circuits conforming to standards EN/ISO 13850 and EN/IEC 60204-1.

■ Electrical monitoring of switches activated by protection devices conforming to standard EN 1088/ISO 14119, devices such as safety interlocks or safety limit switches.

They can also be used for monitoring type 4 light curtains conforming to EN/IEC 61496-1 which have solid-state safety outputs with test function (for example, light curtains type XUSL, see page 3/113). This system would be conforming to category 4 of standard EN 954-1/EN/ISO 13849-1.

Housed in a compact enclosure, the modules have 3 safety outputs.
Preventa™ safety relay modules XPSAFL●●●●P incorporate removable terminal blocks, thus optimizing machine maintenance.
To aid diagnostics, the modules have 3 LEDs on the front cover which provide information on the monitoring circuit status.
The Start button monitoring function is configurable depending on the wiring.

Characteristics

Module type				**XPSAFL5130**	**XPSAFL5130P**
Product designed for max. use in safety related parts of control systems (conforming to EN 954-1)				Category 3 Category 4 for the monitoring of light curtains type 4 with solid state outputs and test function	
Conformity to standards				EN/IEC 60204-1, EN 1088/ISO 14119, EN/IEC 60947-5-1, EN/ISO 13850, EN 50082-2, EN/IEC 61496-1 (type 4)	
Product certifications				UL, CSA, BG	
Supply	Voltage		**V**	∼ and ⎓ 24	
	Voltage limits			- 15…+ 10%	
	Frequency		**Hz**	50/60	
Power consumption			**VA**	≤ 5	
Module inputs fuse protection				Internal, electronic	
Start button monitoring				No (configurable by terminal connections)	
Control unit voltage and current				⎓ 24 V/30 mA approx. (at nominal supply voltage)	
Maximum wiring resistance RL			Ω	90	
Synchronization time between inputs A and B				Unlimited	
Outputs	Voltage reference			Relay hard contacts	
	Number and type of safety circuits			3 N.O. (13-14, 23-24, 33-34)	
	Breaking capacity in AC-15		**VA**	C300: inrush 1800, maintained 180	
	Breaking capacity in DC-13			24 V/1.5 A - L/R = 50 ms	
	Max. thermal current (Ithe)		**A**	6	
	Max. total thermal current		**A**	18	
	Output fuse protection		**A**	4 gG or 6 fast acting, conforming to EN/IEC 60947-5-1, DIN VDE 0660 part 200	
	Minimum current		**mA**	10	
	Minimum voltage		**V**	17	
Electrical life				See page 2/172	
Response time on input opening			**ms**	≤ 20	
Rated insulation voltage (Ui)			**V**	300 (degree of pollution 2 conforming to EN/IEC 60947-5-1, DIN VDE 0110 parts 1 & 2)	
Rated impulse withstand voltage (Uimp.)			**kV**	4 (overvoltage category III, conforming to EN/IEC 60947-5-1, DIN VDE 0110 parts 1 & 2)	
LED display				3	
Operating temperature			**°F (°C)**	+ 14…+ 131 (- 10…+ 55)	
Storage temperature			**°F (°C)**	- 13…+ 267.8 (- 25…+ 85)	
Degree of protection conforming to IEC/EN 60529		Terminals		IP 20	
		Enclosure		IP 40	
Connection		Type		Captive screw clamp terminals	Captive screw clamp terminals, removable terminal block
	1-wire connection	Without cable end		Solid or flexible cable: 26-14 AWG (0.14…2.5 mm²)	Solid or flexible cable: 24-14 AWG (0.2…2.5 mm²)
		With cable end		Without bezel, flexible cable: 24-14 AWG (0.25…2.5 mm²)	
		With cable end		With bezel, flexible cable: 24-16 AWG (0.25…1.5 mm²)	With bezel, flexible cable: 24-14 AWG (0.25…2.5 mm²)
	2-wire connection	Without cable end		Solid or flexible cable: 26-18 AWG (0.14…0.75 mm²)	Solid cable: 24-18 AWG (0.2…1 mm²), flexible cable: 24-16 AWG (0.2…1.5 mm²)
		With cable end		Without bezel, flexible cable: 24-18 AWG (0.25…1 mm²)	
		With cable end		Double, with bezel, flexible cable: 20-16 AWG (0.5…1.5 mm²)	

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References

	Description	Type of terminal block connection	Number of safety circuits	Supply	Reference	Weight oz (kg)
103240  *XPSAFL5130*	**Safety modules for Emergency stop, switch and light curtain monitoring**	Integrated in module	3	∿ and ⎓ 24 V	**XPSAFL5130**	8.818 (0.250)
103241  *XPSAFL5130P*		Removable from module	3	∿ and ⎓ 24 V	**XPSAFL5130P**	8.818 (0.250)