PSRswitch

Reason for product development

As customers are moving to decentralized safety solutions outside of the control cabinet, there is higher demand for new technologies to give machine operators a greater level of protection as well as provide simple connectivity. With compatible safety relays, configurable SAC cables and M12 connectors, we offer a complete, cost-effective solution:

1. With IO-Link diagnostic capabilities of the PSRswitch in combination with the PSR-MC42 PSRmini safety relay, our customers can easily adapt their safety system to the needs of an IIoT-enabled future.

2. PSRswitch safety switches can be connected in series with Y distributors, bridge plugs, and SAC cabling. Unlike competitive modules with molded cable connections, the full safety system provided by Phoenix Contact allows for replaceable and configurable cable lengths.

Our competitors in the safety market, including Rockwell, Banner, Pilz, Omron, and Sick, have a strong and wide product offering to meet customer demand. In addition, the new international machine safety standard ISO 14119, which describes the combination of safety switches and safety relays in a system, is a threat to our core safety relay business.

A safety switch with state-of-the-art RFID technology is a smart safety component with a high average selling price. As a result, our motivation for non-contact safety switches is that they provide an excellent fit for both the Phoenix Contact sales channel and our typical target customer base.

Where/when will this product be used?

The PSRswitch is ideal for small to mid-sized machines, conveyor systems, or robot manufacturing cells with multiple access doors and/or maintenance panels that require safe shut down of stored hazardous energy. An alternative application would be for safe position monitoring of simple lifts or robot systems using multiple MULTICODE sensors and a single actuator to determine when the safe position has been met.

Applications

	UNICODE Sensor (Most common)	- Sensor paired with one single actuator - Pairing with a new replacement actuator possible - No limit to new pairings, but one actuator paired at a time	PSR-CT-C-SEN-1-8 Order no. 2702972
	MULTICODE Sensor	- No pairing required - Sensor functions with multiple actuators simultaneously	PSR-CT-M-SEN-1-8 Order no. 2702975
	FIXCODE Sensor	- Sensor paired with one, single actuator - No further pairing possible	PSR-CT-F-SEN-1-8 Order no. 2702976
	Actuator	- One actuator for all sensor types	PSR-CT-C-ACT Order no. 2702973

PSRswitch

Manufacturer	Phoenix Contact	Banner	Pilz	Sick	Omron	Rockwell
Switch System	PSRswitch + PSRmini (PSR-MC42)	SI-RFDT-LP8 + UM-FA-9A + SI-RFA-DM1	PSEN CS + PNOZ S4 + SDD ES ETH	STR1 + UE48	D40Z + G9SX	Sensaguard 440N + Guardmaster 440R
Diagnostics	Integrated IO-Link device	External Gateway for IO-Link	External Gateway for IO-Link	Each switch must be connected separately for diagnostics	Each switch must be connected separately for diagnostics	Each switch must be connected separately for diagnostics
Ease of Use	++ • Fast installation • Tailored cable length • Integrated on-site reset	++ • Fast installation • Tailored cable length • Integrated on-site reset	++ • Fast installation • Tailored cable length	-- • Fixed connection • Fixed cable length	-- • Fixed connection • Fixed cable length	-- • Fixed connection • Fixed cable length
Compact Design	+++ • Compact switch • 17.5 mm safety relay	++ • Compact switch • 22.5 mm safety relay	- • Compact switch • 22.5 mm safety relay • 45 mm gateway	+ More compact actuator • 22.5 mm safety relay	- • Less compact switch • 22.5 mm safety relay	- • Less compact switch • 22.5 mm safety relay
List Price	$115-145 (sensor) $22 (actuator)	$135 (sensor) $15 (actuator)	$150 (sensor) $25 (actuator)	$118-190 (sensor + actuator)	$260 (sensor + actuator)	$275 (sensor + actuator + cable)

IO-Link connection

The PSRswitch IO-Link diagnostics are possible when utilizing the PSR-MC42 PSRmini relay as the safe evaluation device connected to the sensor modules. The PSRswitch system allows for connection of up to 30 sensors in series to use a smart diagnostic channel that is converted to an IO-Link signal by the PSR-MC42 (the PSR-MC42 is required for IO-Link diagnostics). To get the IO-Link signal on to a control platform, an IO-Link master like the IOL MA8 EIP DI8 – 1072839 is necessary to convert the IO-Link signal to an Ethernet protocol.

INSPIRING INNOVATIONS