

NEW PRODUCTS



Safety Coupling Relay for Process Technology

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Imminent Changes in ISO Safety Standards

On 29 December 2009, ISO 13849-1 will come into force and replace the previous DIN EN 954-1 safety standard.

The new standard stipulates certain requirements that have to be met over the complete lifecycle of a safety function and recommends methods for the implementation using configurable safety modules. The design of the appropriate safety concepts gives users some significant competitive advantages, such as the availability of the safety components. Therefore the productivity of the machine or system is also increased.

DIN EN 954-1 presently serves as the basic safety standard for the machinery and plant construction sectors. The standard, introduced back in 1996, covers the use of electromechanical and pneumatic components. However, devices that can be flexibly configured by software are not taken into consideration; additional standards must be applied if devices such as these are used in an application.

This procedure discourages many users in small and medium-sized companies who, up until now, have used classic safety relays. When DIN EN 954-1 is replaced by ISO 13849-1 on 29 December 2009, this will not only increase the demands placed on the implementation of safety functions, but will also provide the machinery and plant construction sectors with new opportunities and advantages. ISO 13849-1 simplifies the use of configurable safety modules in compliance with the standards, as it defines the requirements placed on classic safety components as well as on flexible, software-based safety systems. The new basic standard therefore takes into account the continually increasing demand for intelligent safety switching devices that combine several functions in the same device.

NEW PRODUCTS

Safety Coupling Relays for Process Technology

As featured on the cover, the PSR-FSP safety relay from Phoenix Contact is a safe coupling relay that is specifically harmonized to operate with fail-safe controls (F-PLC) in process technology. Here, all of the requirements for use in applications up to SIL 3 according to IEC 61508 are fulfilled.

The coupling relay has a positively driven safety relay, whose contacts have an optimized opening behaviour when faults occur.

The specific requirements of a fail-safe control are taken into account using the integrated test pulse filter to extend the lifetime as well as a control circuit to adapt the current drawn.

The safe coupling relay is just 17.5 mm wide and offers users an NO and a signalling contact that can be externally connected. The maximum switched current of the NO contact is 5 A. A 5 x 20 mm standard fuse, externally accessible, is also integrated in the device to protect the load contact. The wiring is simplified using pluggable and coded screw or spring cage terminals.

NEW PRODUCTS



Safety Relay for All New Standards

Safety Relay for All New Standards

Phoenix Contact is one of the first manufacturers to be showcasing a complete range of safety relay products that comply with all of the new safety standards. In addition to the already existing modules for applications up to SIL 3 in accordance with IEC 61508, the company is now offering a broad range of products for applications up to PL e in accordance with ISO 13849-1 and SILCL 3 in accordance with IEC 62061.

In complex electronic systems used in manufacturing, IEC 62061 is recommended while IEC 61508 is chiefly used in the processing industry. A common thread to all of these new standards is that, instead of merely assigning the controller to a safety category, the reliability or failure probability is now assessed for each component in the safety loop from the sensor to the actuator. This increases the workload on plant designers and project planners.

NEW PRODUCTS

Modular Cut-out Safety Relay System with Simple Input Expansion

Phoenix Contact has enhanced the modular cut-out relay system PSR with new, safe input modules. The interface module PSR-SIM4 enables simple connection of up to four safety switches each with one closer/opener contact to the master cut-out relay. This means, for example, that up to four safety doors can be monitored in a machine with one cut-out relay. If more than four protection doors are needed, then several PSR-SIM4 modules can be connected to each other quickly and easily via the mounting rail connector PSR-TBUS. They can then be evaluated via the master cut-out relay PSR-SDC4. For easy analysis, the switch status of the cut-out sensors can be monitored via message outputs (e.g. in an PLC).



NEW PRODUCTS

Analogue Signal Conditioning in Ex Areas

MINI MCR Analogue signal converters and isolators from Phoenix Contact can now be used in Ex applications. All available devices in this product line now fulfill the requirements for type 'n' explosion protection. This means the modules are suitable for installation in Ex-Zone 2. What's more, sensors and actuators from Ex-Zone 1 that fulfill the explosion protection category 2 G but are not listed in the 'intrinsically safe' explosion protection type can also be connected. This is, for example, true of PT100 resistance thermometers.

As a result of their compact design and power bridging option using DIN rail bus connectors, MINI MCR Analogue signal converters can be efficiently installed in decentralized signal distributor boxes directly at the transition point between Ex zone 1 and Ex zone 2. This ensures that sensor cable lengths are kept to a minimum and the signals are amplified meaning transmission reliability is substantially increased.



Efficient Analogue Signal Processing for Ex

Wireless Solutions for Ex Zone I

Phoenix Contact's new unidirectional RAD Line I/O solutions for the Ex zone I now make direct wireless transmission from potentially explosive zone I areas possible. The RAD-ISM-2400-SET-UD-RPS-NAM-EX RAD Line I/O system allows two digital switching signals and one analogue sensor signal (4...20 mA) to be picked up from Ex zones 0, I, and 2 and transmitted to a receiver in a safe area or in Ex zone 2 (these processes are intrinsically safe). One analogue sensor signal (4...20 mA) can be transmitted with the RAD-ISM-2400-SET-UD-RPS-EX RAD Line I/O system.

The wireless systems, power supply, and Ex isolating amplifiers are all housed in a pressure-resistant, encapsulated casing in accordance with protection class Ex d, which is equipped with an Ex barrier for high-frequency antenna cables ensuring no igniting sparks can accidentally emanate from an antenna cable. This offers the advantage that passive standard antennas can be connected to the barrier. This does not limit the range and the transmission speed.

Trusted Wireless technology, which was specially developed for industrial applications, additionally permits safe and interference-free transmission over extended distances of up to several kilometres. Thanks to this Trusted Wireless technology and the frequency hopping technology that is deployed, up to one hundred systems can be used at the same time within close proximity of each other. This RAD Line I/O solution housed in a pressure-resistant and encapsulated casing also makes it possible to implement customer-specific solutions.

Phoenix Contact has published a guide for Engineers on Wireless, Bluetooth and WLAN technologies. The guide also shows products from their own range of Wireless solutions for machine building, factory automation and applications in the process industry.

The range includes products that utilise the GSM, Bluetooth, Wireless Ethernet (WLAN) and the proprietary 'Trusted Wireless' technologies to provide high reliability communications.



Wireless Solutions for Ex Zone

The 'Trusted Wireless' systems used in the process industry are ATEX Zone 2 approved and with a range of different antenna and accessories, many different configurations can be realised. Also included are details of a solar power outstation for remote applications where there is no main power available.

A Switching Device for All Safety Functions

The PSR Trisafe relay is the new configurable safety module from Phoenix Contact. Entire safety circuits in machines and plants, from emergency stops to safety door monitoring, can be monitored using just a single intrinsically safe switching device.

With a width of only 67.5 mm, this relay can be used to monitor up to 20 incoming safety signals. Furthermore, it provides four intrinsically safe outputs as well as outputs for clock signals, alarms, and ground switches. The safety logic can be easily customised using drag-and-drop functionality in the graphical configuration software Safeconf. No programming knowledge is required to use this tool. This means new safety equipment can be quickly and easily integrated into the system at any time.

The included simulation mode and automatic logic check function provide users with a sense of security even during the logic definition phase. Since each module can be configured in just a few mouse clicks, this eliminates the need to perform complex wiring while at the same time minimizing potential sources of error. The configurable safety module allows for efficient project implementation during all phases.



PSR TRISAFE - New configurable safety module

NEW LITERATURE

2009/10 catalogues now available

Phoenix Contact's new catalogues contain 19,000 innovative products including connection technology; the world's largest range of modular and special terminal blocks; industrial wireless and Bluetooth systems; automation solutions; electronic signal conversion and surge protection.

Expanded to include over 1000 new innovations, the catalogues offer a comprehensive selection guide to Phoenix Contacts product lines.

Available as six individual publications the catalogues comprise of:



CLIPLINE - Industrial Connection Technology, Marking Systems & Mounting Materials

COMBICON - PCB Connection Technology & Electronic Housings

PLUSCON - Industrial Plug Connectors & Cabling

TRABTECH - Surge and Lightning Protection

INTERFACE - Signal Converters, Switching Devices & Power Supplies

AUTOMATION - Components & Systems

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LITERATURE

Explosion Protection Handbook & Poster

The implementation of the ATEX Directives resulted in Phoenix Contact creating a handbook on the subject, to offer help and guidance on the use and installation of products in hazardous environments.

The A4 size, full colour, forty page guide contains detailed information on key topics including, the Regulations & Directives, installation & protection methods, zones and types of protection in hazardous environments.

Additional guidance on the selection and use of specific ATEX approved products such as rail mounted terminals, surge protection and interface devices is also covered.

To accompany the hand book we have also produced an A2 size, full colour, poster designed to provide a basic understanding for manufacturers, users and operators of the standards with details of key information on such items as CE marking, temperature class, categories, and types of protection, to aid the selection of the ATEX approved components including rail mounted terminals, surge protection devices and interface products.



Both primarily created for manufacturers, users and operators in the Oil and Gas industry the handbook and poster are equally beneficial to other sectors where electrical equipment is installed and operated in hazardous environments.

EVENTS

Phoenix Contact will be profiling products featured in this Update at the HazardEx Conference and Exhibition in Harrogate next February. Experts will be on hand to answer any questions you may have. We will also be featuring in several workshops to be held over the course of the two day conference.

HazardEx 2010

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