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“All Inclusive” Safety Relay for Process Automation

The new KFD0-RSH-1.4S.PS2 from Pepperl+Fuchs is an “all inclusive” solution for the galvanic isolation of digital outputs on a control system level for loads within a voltage range of 24 VDC to 230 VAC.

This device simplifies system planning considerably and makes the preparation of quotations and end customer inventories a great deal easier. This objective is achieved by integrating all the standard switching functions into a single device.

The new safety relay can be used for switching functions in safety loops up to SIL3. An assessment was conducted during the development process according to IEC61508. The module is suitable for the “Safe switch on” and “Safe switch off” safety functions. The circuit can also be wired to separate both poles of a load from power (“dual pole switching”) if required.

The technical device features include the use of redundant and diversitary relays that are designed to operate well below their specified load and application limits. A replaceable fuse protects the contacts on the relays against overloading. The standard glass tube fuse on the front of the device is easy to replace. A “Safety Manual” containing all the necessary information is also available.

Test inputs on the device allow a simple cyclic proof test to be performed on the relay module during the proof testing procedure. With this proof test all errors are detected, making force guided contacts of the relays and their return wiring to the control system unnecessary. LEDs indicate whether a test input is activated according to NE44.

The input circuit of the relay module suppresses random switching events of the relays caused by test pulses coming from the control system. These test pulses are generated by digital output cards of the control system allowing the control system to check the integrity of the wiring and output switches.

About Pepperl+Fuchs

Pepperl+Fuchs is a leading developer and manufacturer of electronic sensors and components for the global automation market. For more than 60 years, our continuous innovation, high quality products, and steady growth has guaranteed us continued success.

One Company – Two Divisions

Pepperl+Fuchs – PROTECTING YOUR PROCESS

The **Process Automation Division** is a market leader in intrinsically safe explosion protection. We offer comprehensive, application-oriented system solutions, including customer-specific control cabinet solutions for the process industry. A large portfolio of components is available from our various product lines: isolated barriers, fieldbus infrastructure solutions, remote I/O systems, HART interface solutions, level measurement devices, purge and pressurization systems, industrial monitors and HMI solutions, power supplies, separator alarm systems for oil and petrol separators, signaling equipment, lighting as well as emergency shutdown equipment and accessories.

Pepperl+Fuchs – SENSING YOUR NEEDS

With the invention of the inductive proximity sensor in 1958, the company set an important milestone in the development of automation technology. Under the motto “Sensing your needs”, customers benefit from tailor-made sensor solutions for **factory automation**. The main target markets of the factory automation are machine and plant construction, the automotive industry, storage and material handling, printing and paper industry, packaging technology, process equipment, door, gate and elevator construction, mobile equipment, renewable energies.

The division offers a wide product range of industrial sensors whether it's inductive, photoelectric or ultrasonic sensors, rotary encoders, identification systems, barcodes, code readers for data-matrix-codes and vision sensors.

Key words: Interface technology, safety relay, relay module, DPS, ETS, DTS, SIL 3

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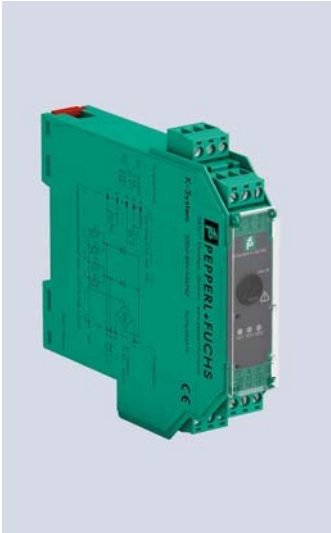


Fig. 1: Relay module KFD0-RSH-1.4S.PS2

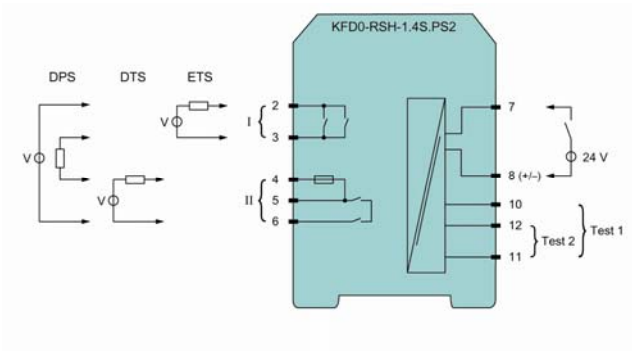


Fig. 2: All essential functions in a single module – switch on and off safely and dual pole switching