



IDEC's Safety Controller Simplifies Designs

Using certified hardware and flexible preconfigured logic strategies, the FS1B Safety Controller easily handles what would otherwise take multiple modules.

IDEC Corporation, Sunnyvale, CA, January 9, 2025 — IDEC Corporation is launching the FS1B Safety Controller—an upgrade of the popular FS1A device—providing additional features. The FS1B lets designers create streamlined machine safety systems with multiple safety channels by using any of 24 preset safety logic strategies selected with DIP switch configuration—with no programming required.

Supplanting separate modules

Standard safety circuit designs often use many safety relays to accommodate multiple inputs from emergency stop (E-stop) buttons, light curtains, and other safety devices to provide a safety interlocking output for de-energizing associated equipment. The FS1B consolidates this functionality into a compact, standalone form factor, with convenient and reliable push-in terminals.

DIP switches and a single “enter” pushbutton provide quick and easy setting of the safety logic strategy, inputs, and power off delay timer, and these settings can be locked in with a protective cover secured by a marked cable tie to prevent accidental changes. Colored LEDs and seven-segment numeric displays provide clear at-a-glance device and input/output status.

The FS1B includes 12 universal discrete inputs (assignable as up to 6 safety channels). For safety devices, each dual-channel pair of inputs can be used in the default setting, or it can be changed as follows: direct opening input, dependent input, NO/NC input, or safety input II—each with or without synchronization monitoring. Alternately, individual inputs can be set to monitor non-safety devices, such as reset or other external signals, as part of the logic. Four safety outputs provide the capability to de-energize multiple equipment or systems.

Simple safety setup

Other safety products may require multiple devices, configuration software and programming, drivers, and then additional program certification. The FS1B overcomes these shortcomings with 24 built-in safety logic strategies, each of which are certified on this device by a trusted independent body to ensure proper and reliable performance. This pre-certification enhances system safety, simplifies the design process, and streamlines the overall approval process for machinery certification.

Some examples of typical safety logic strategy options include partial stop, mode switching, switch/sensor combined, OR logic, and two-handed logic control. A web-based online simulator allows users to quickly select their application requirements, determine the best configuration, and obtain a circuit diagram output to document the settings.

The FS1B carries applicable IEC 61508, ISO 13849, UL508, and other approvals. Depending on the application, the safety performance can be up to SIL 3, PLe, Category 4. Powered by industry standard 24V DC, with a wide operating temperature range of -10 to +55 Deg C, and robust vibration resistance, the FS1B will excel in most any control panel location, whether on-board or external to the protected equipment.

Flexible safety for a multitude of applications

Whether for small-scale systems and production processes, or as part of a larger safety control system, the FS1B streamlines designs while improving safety. Typical industries and machines/equipment with these needs include injection molding, semiconductor manufacturing, metalworking, pharmaceuticals, food processing and packaging, robotics, automated guided vehicles (AGVs), autonomous mobile robots (AMRs), and others.

Of special interest for OEMs or other designers of equipment with multiple options or configurations, the FS1B can be designed into the controls once, and then adjusted with the safety logic strategy to adapt for various types of inputs. This allows for a standardized design supporting flexible equipment options, minimizing development effort, while simplifying stocking and control panel fabrication.

The IDEC FS1B Safety Controller is just one part of a comprehensive safety solutions portfolio for a wide variety of applications. As with all its products, IDEC offers free tech support for the FS1B, with no service or support contract required. For complete specifications or additional information, please contact IDEC Corporation at 800-262-IDEC (4332), or visit us online at https://us.idec.com/c/FS1B_Series .

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