

# The GATEKEEPER

**SCHMERSAL**  
TURNING WORKPLACES INTO SAFEPLACES

June 2012

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## VIDEO

Schmersal Product Demo:



SRB 100DR

### Product Demonstration: SRB100DR

Application Engineer Devin Murray explains the double reset function of the SRB-100DR controller. (Duration: 1 min, 8 sec)

[Go to Video](#)

## REFERENCE



### GK-2 Guide to Safety Controllers

We've updated our **GK-2  
Guide to Safety**

## Safety Controllers Provide Control Reliability

OSHA, ANSI, RIA and other national and international agencies use the term "control reliability" when referring to the characteristics of a safety circuit. By definition this means that the safety system be designed, constructed and installed such that the failure of a single component within the device or system should not prevent normal machine stopping action from taking place — but shall prevent a successive machine cycle from being initiated until the failure is corrected. Using redundant-safety rated interlocks, sensors and other types of devices is only one part to achieving a control reliable safety circuit. In order to fulfill these requirements, the circuit must feature a form of fault detection.

Typical faults to be detected include: guard monitoring switch/sensor failure, "open-circuit", "short-circuit" and "short-to-ground" in interconnection wiring, "cross-short" between channels, and welded contact(s) in a controlled output device (such as positive-guided motor contactor). Although this can be accomplished using a complex hard-wired circuit incorporating many latching positively guided relays, requiring well over 40 points of wiring to arrange the logic for monitoring and validation of a self-designed safety monitoring circuit, it is much more economical to use an approved safety rated controller for this function. These controllers will typically not only monitor these faults, but also internal failures such as those of its own positive-guided relay(s), fault in safety system monitoring circuit and insufficient operating voltage.

In conclusion, the use of a safety controller is vital when attempting to fulfill the fault detection aspect of a control reliable circuit with basic safety devices.

## Product Spotlight

### General Purpose Controllers

Protect SRB Controllers for use with safety switches and sensors on sliding, hinged or removable guard doors

#### SRB Series



### Input Expanders

Accessory modules that provide additional inputs for our SRB Series Controllers

#### PROTECT IE PROTECT PE



### Dual Zone Monitoring

Controllers with differentiated inputs to monitor

**Controllers** to help explain the need for safety controllers, how they relate to current standards such as ISO 13849, and to assist with the selection of an appropriate Schmersal safety controller. This guide to safety controllers provides valuable information on these important safety components. 32 pages.

View the catalog online:  
[www.schmersalusa.com](http://www.schmersalusa.com)



#### MRL News

This book is designed to provide background knowledge and additional information on the subject of machine safety, as well as practical tips and helpful suggestions that can be applied to individual applications. Available in print only: Hardcover. 200 Pages.

Order a complimentary copy of this book [here](#).

## INNOVATIONS



#### BNS40S

A non-contact safety sensor designed with food & beverage applications in mind: Compact stainless steel housing is IP69K rated and ECOLAB tested; front or rear (concealed) mounting;

two separate switches

**SRB202C**  
**SRB400C**



#### Safe Speed Monitoring

Modules that either detect machine rundown or time delay the release of solenoid latching switches

**Stand Still Monitors**  
**Delay Timers**



#### Safety control modules for specific applications

Intrinsically Safe Controllers for Explosive Environments, with Muting or Double Reset functions, or for use with specific types of switches such as our Safety Edges, Two Hand Controls, or Safety Light Curtains.

**More»**



#### PSC - Programmable Safety Controller

This modular system can be configured and programmed for specific applications that utilize E-Stops, Guard monitoring switches, Light Curtains or Pulse Echo products.

**More»**



### Ask The Expert:

*Devin Murray,  
TUV Functional Safety Engineer  
ID-No. 4274/11*



#### ***What is the difference between a Manual and Monitored Manual reset for a safety controller?***

In some cases, a risk assessment may conclude that an automatic reset of the safety controller is not permitted. This means that after the safety device has been interrupted and reengaged, a second action (typically pressing of a normally open momentary pushbutton) must be performed in order for the safety controller to close its safety outputs.

With a Manual reset, the safety controller is reengaged the moment the pushbutton is pressed providing a 0v to 24v transition; this is considered a Leading or Rising edge reset.

A Monitored Manual reset will reengage once this pushbutton is pressed then released, providing a 24v to 0v transition; this is considered a Trailing or Falling edge reset.

Because a manual reset can be converted to an automatic reset by situations such as a welded contact in the pushbutton, new standards such as ISO 13849 make specific reference to using a monitored manual operation when a reset is required.

### Schedule

optional LED.

[More info](#)

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### General Machine Guarding Seminar

Our 7 hour course on the fundamentals of machine safety

**August 8 – St. Paul, MN**

**September 26 – Cincinnati, OH**

**October 10 – Sturbridge, MA**

**November 8 – Lynchburg, VA**

### ISO13849 Seminar

Our 7 hour course on the new risk assessment standard

**September 27 – Cincinnati, OH**

**October 11 – Sturbridge, MA**

**November 7 – Charlotte, NC**

### Tradeshows

**September 10-13 – United Elevator Conference - Atlantic City, NJ**

**September 24-25 – RIA National Robot Safety Conference – Indianapolis, IN**

**October 28-30 – PACK Expo - Chicago, IL**