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GK-1 Catalog - 8th edition

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NEW! GK-1 Catalog

† SCHMERSAL is proud to announce the release of the 416 page, eighth edition of the **GK-1 Machine Guarding Safety Products Catalog-Handbook**.

† The updated and expanded **GK-1 Catalog** provides comprehensive information on all SCHMERSAL products in one handy reference. Included are updated copies of our informative Passport and FAQ guides.

† The **GK-1 Catalog** now contains technical data sheets on all of our new products, including:

- MZM 100** interlock switch,
- CSS 34** pulse echo sensor,
- AZM 200** solenoid interlock,
- BNS 260** coded magnet sensor,
- BNS33S** stainless steel sensor,
- TFA/TFI** alignment aid,
- TESF** hinged switch,
- S900** cable tensioner,

And our expanded line of Safety Light Curtains, featuring long range, Blanking, and Muting functions.

† More information on products mentioned in this newsletter can be found in the SCHMERSAL **GK-1 Catalog**, eighth edition.

† Order your catalog today (contact information is below) or view the new **GK-1 Catalog** Online: www.schmersalusa.com.

Award Winning Design: AZM 200

The German GIT publishing company releases an annual poll among the readers of its technical journal "*Sicherheit & Automation*" to designate three new products with distinctive, innovative features to receive the Safety Award.

In November 2005, one of these Safety Awards was presented to SCHMERSAL's new AZM200, at the SPS/IPC/DRIVES 2005 Trade Fair, in Nürnberg, Germany.

The AZM200 is a solenoid latching interlock switch with integrated door handle actuator. It uses SCHMERSAL's patented pulse-echo technology. It was made available to the North American market in mid 2006.



product
design
award

In addition, the AZM 200 is the recipient of the prestigious International Forum Product Design Award. For over 50 years, it has been an internationally recognized award given for excellence in design. The competition covers 14 categories of products across a wide spectrum of industries, and evaluates over two thousand entries each year.

An "Attractive" New Interlock Design

SCHMERSAL recently introduced an innovative new switch, the MZM 100, a safety interlock with a non-mechanical operating principle - no actuator key or positive-linked solenoid latching mechanism. The MZM 100 is a magnetic interlock: it uses a powerful electromagnet to generate a 100 lb. (500 N) holding force, locking the machine guard. Additionally, the switch detects and monitors the actuator plate through an integrated non-contact sensor that uses SCHMERSAL's patented pulse-echo technology.

The unique combination of the magnetic operating principle and the pulse-echo sensing offers multiple advantages: Since there are no moving parts, the switch is not subject to mechanical wear; The non-contact sensor tolerates larger door misalignments; Also, the pulse echo technology allows a single safety controller to monitor multiple units - not only other MZM 100, but other pulse-echo units such as the AZM 200 interlock and the CSS 180 and CSS 34 safety sensors, without detriment to the safety level.

Even without a positive-linked mechanical locking mechanism, the MZM 100 fulfills the requirements of Control Category 4 (EN 954-1) or SIL 3 (IEC 61508). The magnetic locking principle complies with EN 60947-5-1.



MZM100 and actuator

Continued next page...

Product Highlight



PROTECT IE

The Protect IE is an input expansion module compatible with SCHMERSAL's SRB Protect Series of Safety Controllers. (i.e. SRB 301, SRB 206, etc.)

It provides four additional monitoring inputs where required to satisfy system control requirements. It is possible to cascade multiple units to monitor up to 80 switches. Typically it is used to monitor emergency stops, interlock switches, and coded magnet sensors.

The expansion module will not monitor reset or feedback, leaving these functions to the master controller. The Protect IE's Safety Control Category rating is also a function of the master safety controller, with a maximum of Control Category 3 per EN 954-1.

For more information about our company or products mentioned in this newsletter, please contact:

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Additionally, the actuator plate was designed with a flexible mounting which absorbs vibration. This neutralizes undesired rattling noises, even on machines with high vibrations. The tolerance to vibration makes the MZM 100 perfectly suitable for light safety guards, such as on packaging and wrapping machines.

The MZM 100 was also designed with smooth surfaces where dust and dirt cannot deposit. This is of particular advantage in cases where extremely dirty conditions occur. The MZM 100 has an IP 67 protection class rating, making it suitable for the food-processing industry or wherever high hygienic standards need to be maintained.

The new magnetic interlock MZM 100 – an innovative operating principle with attractive design advantages.

For More Information: See page 76 of the new [GK-1 Catalog, 8th Edition](#).

Frequently Asked Questions

Q: Is “Daisy Chaining” standard interlock switches an acceptable practice?

A: "Daisy chaining" is defined as a series connection of multiple switches in a circuit. It is a widespread practice worldwide.

Daisy chaining of electrical safety interlocks is an attractive lower cost alternative for the designer especially on higher risk machines that might otherwise require multiple safety controllers to achieve the desired safety control category. However when using it in a machine guarding safety circuit, especially in higher risk applications, it is important to recognize its limitations and potential consequences:

- There are a variety of fault conditions that might lead to a loss of the safety function.
- Some safety system faults may not be detected.
- It may be difficult to identify which guard is opened or to identify where within the safety circuit a fault has occurred.
- Production downtime may be greater while maintenance personnel attempt to locate and correct the cause of machine stoppage.

For Low levels of assessed risk, daisy chaining is acceptable. For Intermediate levels of assessed risk, daisy chaining may be acceptable with due diligence given to the design criteria utilized in overall safety system design. For High levels of assessed risk, daisy chaining standard interlock switches is unacceptable.

More Frequently Asked Questions are answered at our website: www.schmersalusa.com.

A full article, entitled ***Daisy Chaining Switches in Machine Guarding Safety Circuits*** by Don Miller of SCHMERSAL, is available in Adobe PDF format on our website at www.schmersalusa.com.