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GK-C Catalog

▶ The **GK-C Catalog** is a condensed version of our full **GK-1 Catalog**.

▶ The 8 page catalog provides a general application diagram and selection guides on all 12 families of SCHMERSAL products, including:

- Keyed Interlock Switches
- Emergency Cable-Pull Switches
- Non-Contact Safety Sensors
- Hinged Interlock Switches
- Safety Rated Limit Switches
- Fail-to-Safe Safety Edges
- Safety Controllers
- Safety Light Curtains
- Safety Pressure Mats

▶ View the **GK-C Catalog** Online:
www.schmersalusa.com.



U.S. Guidelines for Risk Assessment

Risk Assessment per ANSI B11.TR3

ANSI's B11.TR3 Technical Report is a guideline for conducting risk assessment and addressing the assessed risk with a suitable safety system. Unlike the frequently cited European Standard EN954, which is aimed primarily at the original equipment designer, TR3 is a "task-based" guideline.

As such, it encourages both the equipment designer and the end-user to conduct an audit of potential hazards. This recognizes that a high percentage of injuries occur during machine set-up and/or routine maintenance. Hence the end-user plays an important role in the hazard identification process.

Within this guideline the machine builder (OEM) and the end-user work together to identify the performed tasks and any associated risks. The level of risk is a function of the severity of the possible injury (the worst possible consequence of exposure to the hazard) and the probability of occurrence (as shown in Table 1).

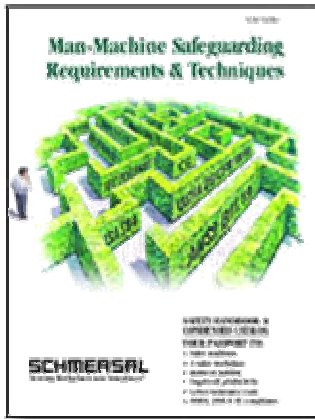
TABLE 1: Risk Estimation Matrix

Probability of Occurrence	Severity of Injury			
	Minor	Moderate	Serious	Catastrophic
Remote	Negligible	Negligible	Low	Low
Unlikely	Negligible	Low	Medium	Medium
Likely	Low	Medium	High	High
Very Likely	Medium	Medium	High	High

The level of assessed risk suggests minimum standards of safety system performance to achieve the desired degree of risk reduction.

Table 2 suggests the ANSI B11.TR3 guidelines for the safety system characteristics associated with each of the levels of assessed risk using this risk assessment model.

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PASSPORT

▶ The **Passport** guide is a 48 page Q&A tutorial for those concerned with:

- Providing a safer workplace.
- Protecting workers from injury.
- Reducing liability risks.
- Eliminating the high indirect cost associated with worker injuries.
- Complying with OSHA, ANSI and European Machinery Directive requirements.

▶ Information in the guide answers 48 questions about machine safeguarding on topics including:

- Achieving "Control Reliability"
- Risk Assessment
- Safety control categories
- Safety controllers
- CE-compliance
- Meeting ANSI and OSHA Guidelines
- Positive-Break safety components
- Positive-Guided Contacts
- Positive-Linkage safety limit switches
- Positive-mode vs. Negative-mode mounting
- Controlled access
- Diverse redundancy
- Tamper-resistance
- Single- and dual-channel safety circuits

▶ Additionally, the guide concludes with a short-form catalog of selected SCHMERSAL Safety Products.

▶ Order your free **Passport** guide today, or view the guide online at www.schmersalusa.com.

U.S. Guidelines for Risk Assessment continued...

TABLE 2

Assessed Level of Risk	Suggested Safety Control System Characteristics
Negligible	<ul style="list-style-type: none"> • Provides tactile or visual awareness of the hazard or minimal protection against inadvertent exposure (e.g. post and rope barrier, movable screen). • Safety control systems using single-channel (one safety contact configuration).
Low	<ul style="list-style-type: none"> • Barrier guard or protective device that provides simple guarding against inadvertent exposure to the hazard (e.g. fixed screen or movable guard with interlocking). • Physical devices that require adjustment for use (e.g. adjustable guard). • Dual-channel safety control system that may be manually checked to ensure the continuity of its performance.
Medium	<ul style="list-style-type: none"> • Barrier guard or protective device that prevents unintended exposure of any part of the body to the hazard and not removable or adjustable by unauthorized persons. • Physical devices that do not require adjustment or other operator intervention. • Dual-channel safety control system with self-checking upon start-up to ensure the continuity of its performance.
High	<ul style="list-style-type: none"> • Barrier guard or protective device that prevents unintended exposure of any part of the body to the hazard and secured with special fasteners or a lock. If barrier is movable, it should be equipped with a safety interlock. • Dual-channel safety control system with continuous self-checking to ensure the continuity of its performance.

It is important to understand that there are no specific ("canned") solutions for any level of assessed risk. Rather each protective measure generally provides an incremental amount of risk reduction, with the final safety level attained a function of the combination of all the protective measures taken.

For example, during risk assessment:

- 1) A hazard, with it's associated level of risk, is identified.
- 2) As a first step, a guard is added to protect against the hazard. However, access may be needed for routine maintenance.
- 3) The guard is designed to be movable, or alternatively, is equipped with a door/cover to permit access. The guard is then equipped with a safety interlock switch so that, when the guard is opened the machine stops (and the potential hazard is eliminated).
- 4) At this point the determination is made whether the risk of injury due to the recognized hazard has been reduced to an acceptable level.

Should this not be the case, protective measures continue to be taken until an acceptably low level of risk has been achieved.

*This article is an excerpt from **Daisy Chaining Switches in Machine Guarding Safety Circuits**, By Don Miller, Schmersal, Inc. It first appeared in *The Grey House Safety & Security Directory*, 2005. Reprinted with permission by Grey House Publishing, Millerton, NY.*

Click here to read the full article at www.schmersalusa.com.



National Manufacturing Week
March 21 through 23, 2006

Donald E. Stephens Convention Center,
Rosemont (Chicago), IL

www.manufacturingweek.com

For Your Information:

Can't make it to National Manufacturing Week?

SCHMERSAL would be pleased to conduct an on-site, "hands-on" safety seminar for you and your colleagues.

Our Regional Managers and Sales Representatives present everything from general demonstrations of available SCHMERSAL products to in-depth, hands-on product training.

To arrange for a program, tailored to your specific interest and needs, please contact us at: info@schmersalusa.com

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

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SCHMERSAL to Present New Product Seminar at National Trade Show

SCHMERSAL will be presenting "NEW SOLUTIONS FOR MACHINE SAFEGUARDING" at this year's National Manufacturing Week. This free, 90 minute, hands-on seminar will be presented by Joe Bussie, a Regional Manager for SCHMERSAL with over 10 years experience in the field of Machine Safeguarding.

This program will present some of the latest developments in safety components available from SCHMERSAL, including:

- Non-Contact Safety Sensors suitable for up to Safety Category 4
- Safety Handle Systems with emergency egress
- Safety Handle Systems with magnetic latching & non-contact sensing
- Stainless Steel Coded-Magnet Switches
- New Emergency Cable-Pull Switches
- Compact Multifunction Safety Controllers

SCHMERSAL will hold two sessions at 1:00PM and 3:00PM on Wednesday, March 22, 2006 in meeting room E-7. Attendance is limited, so please pre-register for the event. Please contact Joe Bussie at jbussie@schmersalusa.com.

National Manufacturing Week is a three day annual conference and exhibition held in the greater Chicago area for engineers and executives from across the country. Tens of thousands from the US manufacturing community come together for an in-depth, application-oriented conference with more than 250 sessions and workshops. Over 1,000 leading suppliers take part in the exhibition spanning the broad spectrum of enabling technologies, systems, new products and solutions.

Reader Feedback

We would like to take this opportunity to thank you for the warm response our premiere edition received.

We welcome your questions and comments, and would appreciate your making us aware of any safety-related topics or concerns you would like to see addressed in future editions of The GATEKEEPER.

Please send your questions or comments to The GATEKEEPER at Info@schmersalusa.com