Safety in System
Protection for man and machine

FOOD AND BEVERAGES
INDUSTRY BROCHURE

NEW



SCHMERSAL
THE DNA OF SAFETY

INTRODUCTION





Heinz and Philip Schmersal,
Managing Directors of the Schmersal Group

New solutions to improve production efficiency and machine safety

For the food and beverage industry, Schmersal offers a broad product portfolio of command and signalling devices as well as safety switching devices that meet the requirements of 'hygienic design'.

These specially developed products meet the requirements of the food and beverage industry in terms of moisture, wetness, cleaning agents and temperature resistance.

Our industry-specific switchgear, which has been specially developed for the food industry, is mainly made of stainless steel – a material that is particularly well suited for the industry due to its hygienic properties and robustness.

The plastics and sealing materials used are also qualified and approved for the food industry, which, in addition to the 'Hygienic Design', is a further basic requirement.

Schmersal also supplies safety sensors, solenoid interlocks, position switches, command and signalling devices and safety light curtains that are certified in accordance with the ATEX and IECEx directives.

Since organic dusts are flammable under certain conditions, the regulations for dust explosion protection must be observed when filling and storing powdered foodstuffs and their intermediate products (e.g. flour, baking mixtures, coffee and cocoa powder).

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products.schmersal.com

FOOD AND BEVERAGES
SAFETY SOLUTIONS FOR A WIDE RANGE OF REQUIREMENTS

SAFETY AND AUTOMATION SOLUTIONS FOR THE FOOD AND BEVERAGE INDUSTRY

Safety for man and machine – according to this motto, the Schmersal Group has been developing safety switchgear such as safety sensors, light curtains, guard locking devices, safety controllers and command and signalling devices for the entire machine and plant engineering sector for decades. In some industries, special and additional requirements are applicable.

As a customer-orientated company that is intensively involved with the wishes of machine manufacturers and operators, Schmersal has been adapting to these requirements from the very beginning.

The result: specific products and solutions were developed for many sectors, with some even getting their own portfolio.

HARVESTING, DRYING, FILLETING, HEATING, MINCING, MIXING, FILLING AND PACKAGING

Food production involves a large number of processes. These processes are largely carried out by machines that have to meet high safety standards. In addition to the general machine safety standards and guidelines, specific aspects that influence the selection of safety switchgear must also be taken into account in the food industry.

These include safety sensors, guard locking devices, light curtains and control devices that are used at the interface between man and machine. These devices must not only ensure the safety of the operators, but also guarantee the hygiene and quality of the food.



TEMPERATURE RESISTANCE

In the deep-freeze warehouse or during shock freezing – to name just two examples – automated processes take place at temperatures below freezing. Processes that require high temperatures are much more common: evaporation, homogenisation, drying, condensation and distillation.

Safety sensors, light curtains and other switching devices used in these processes must be resistant to high and low temperatures.



HUMIDITY, MOISTURE AND DETERGENTS

The parts of food processing machines that come into contact with the product or are in close proximity to it must meet very high hygiene standards. This also applies to the safety sensors, light curtains, command devices and operating elements that control and monitor these parts.

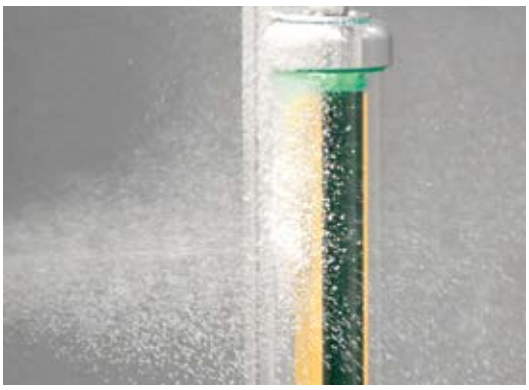
Many switchgears therefore have an IP69 or IP69K degree of protection. This means that they can withstand a water jet with a pressure of at least 100 bar and a temperature of 80°C.



LONG LIFETIME AND AVAILABILITY

In food production, machinery and plants often operate with short cycles and in a three-shift operation in interlinked plants. The demands on availability are correspondingly high.

Switchgear such as safety sensors and light curtains from Schmersal meet these requirements. They prove their worth in a wide range of applications, even under adverse ambient conditions.



EXPLOSION PROTECTION – SAFETY AND AUTOMATION SOLUTIONS IN ACCORDANCE WITH ATEX DIRECTIVES AND IECEX

When mixed to air in a particular proportion, all organic dusts are inflammable. Therefore, for example, when filling and storing powdered foodstuffs or their intermediate products (flour, baking mixtures, pudding powder, coffee and cocoa powder), the regulations for dust explosion protection must be observed.

Among other things, the Schmersal Group offers safety sensors, solenoid interlocks, position switches and command devices for automation and machine safety, which are tested and certified in accordance with the ATEX and IECEx directives.



FOOD AND BEVERAGES
HYGIENIC DESIGN

DESCRIPTION

The safety and quality of products in the food, beverage, medical, and pharmaceutical industries is of great importance for consumer protection and compliance with legal requirements. To meet these requirements, it is important to ensure that the production processes in these sensitive areas are hygienic and clean. Standardised hygienic design parts, developed specifically for this purpose, can help.

They offer the following advantages:

- They extend the shelf life of products by preventing or reducing the growth of microorganisms.
- They reduce the use of preservatives, which can be harmful to health or impair the flavour of the products.
- They make it easier to clean and disinfect machines and machine parts thanks to their smooth, seamless and rounded surfaces.

Hygienic design refers to three areas that have different requirements depending on the contact with the product:

- **Food area:** These are the surfaces that come into direct contact with the product or from which the product can be influenced, e.g. through run-off, dripping, streaming or suction. These surfaces must be particularly clean and smooth to prevent build-up and deposits.
- **Splash area:** These are the surfaces that can be splashed or wetted by the product, but do not come into contact with the product again. These surfaces must also be clean and smooth, but also sloped or angled to facilitate the flow of the product.
- **Non-food area:** These are the surfaces that do not come into contact with the product or the spray area. Although these surfaces do not have to fulfil such high hygiene standards, they still have to be easy to clean and maintain.

Hygienic design not only concerns the surfaces, but also the selection of safety switchgear that controls and monitors the machines. One example of this is the non-contact safety sensors, which have no mechanical parts that can wear out or become dirty. These sensors have smooth, easy-to-clean surfaces and can also be installed in a concealed manner so as not to create any unsightly blemishes.

Hygienic design is indispensable for many industries with high quality standards for their products. These industries manufacture products with little or no preservatives that have a long shelf life. This requires production environments that do not allow contamination with microorganisms or dirt. Hygienic Design supports these environments by offering the following advantages:

- **It reduces the cleaning effort,** which can account for up to 25 % of production time, by shortening and simplifying the cleaning cycles.
- **It saves resources** by reducing the consumption of fresh water, energy, cleaning agents and waste water.
- **It lowers overall costs** by increasing productivity, reducing maintenance costs and extending the service life of the machines.



The hygienic design command and signalling devices of Schmersal's H series

LEGAL AND HYGIENIC DESIGN PRINCIPLES

For food production, machines and systems must fulfil certain characteristics that are defined in various regulations. These regulations also apply to the individual parts of the machines and systems and place high demands on hygiene, cleaning and safety. The most important regulations and organisations include:

- The **Machinery Directive 2006/42/EC (MRL),** which defines the basic health and safety requirements for machinery in the European Union.
- **DIN EN ISO 14159,** which describes the hygiene requirements for the design of machines that come into contact with food or other products that require hygienic handling.
- **DIN EN 1672-2,** which defines the general design principles for food processing machines, in particular the requirements for hygiene and cleanability.
- **Regulation (EC) No 178/2002** of the European Parliament, which lays down the general principles and requirements of food law, establishes the European Food Safety Authority and regulates procedures in matters of food safety.
- **Regulation (EC) No 1935/2004** of the European Parliament and of the Council on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC.
- **Commission Regulation (EC) No 2023/2006** on good manufacturing practice for materials and articles intended to come into contact with food.
- The **3A – 3-A Sanitary Standards, Inc.,** which is an organisation of manufacturers, processors and regulators that develops voluntary standards for the hygienic design of machinery and equipment for the food, beverage and pharmaceutical industries in the USA.
- The **EHEDG – European Hygienic Engineering & Design Group,** which is an association of manufacturers, processors, research institutes and authorities that provides guidelines and certificates for the hygienic design of machinery and equipment for the food, beverage and pharmaceutical industries in Europe.
- The **FDA – Food and Drug Administration,** which is the federal agency for food and drug safety in the USA that, among other things, sets out the requirements for the manufacture, transport and storage of food and other products.
- **NSF International – The Public Health and Safety Company,** which is a not-for-profit organisation that is a world leader in standards development, product certification, consulting and training for the food, water and health industries.
- The **USDA – US Department of Agriculture,** which is the federal agency for agriculture, food and rural development in the United States that provides programmes and services to farmers, processors and consumers, among others.
- The **AMI – The American Meat Institute,** which was the oldest and largest trade association for the US meat and poultry industry, merged into the North American Meat Institute (NAMI) in 2015.

**Schmersal manufactures switching and command devices that control and monitor machines and systems.
These appliances are designed in accordance with international regulations for food production and meet the highest standards of hygiene, cleaning and safety.**

APPLICATIONS
MACHINE OPERATION IN A HYGIENIC ENVIRONMENT



COMMAND AND SIGNALLING DEVICES "H" SERIES

The use of command and signalling devices on food processing machines is a critical aspect that has a direct impact on the efficiency, safety and hygiene of production processes. In the food industry, it is essential that the equipment used not only functions reliably, but also meets the high hygienic requirements. In this context, the Schmersal 'H' series offers an optimal solution for food processing machines, particularly with regard to hygiene and robustness.

In industrial environments, especially at the human-machine interface, devices must be able to withstand extreme conditions. The command and signalling devices in the 'H' series are specially designed for such demanding conditions.

A key element of this range is the hygienic design, which meets the strict requirements of the food and packaging industry. The devices fulfil the high protection class IP69K, which means that they are fully protected against the ingress of moisture even during intensive cleaning with a jet of water at 80 °C and a pressure of 100 bar.

This property is particularly important in areas such as the meat processing industry, where regular and intensive cleaning processes are required due to the hygienic sensitivity of the products.

In addition, the devices have smooth contours and surfaces, which not only make cleaning easier, but also prevent the penetration of moisture and humidity. This sophisticated design makes the Schmersal 'H' series an ideal choice for all types of food processing and packaging machines where hygiene and durability are top priorities.

Product video:



"H" SERIES

- Hygienic certified design
- Easy to clean thanks to low dirt adhesion and IP69
- Simple installation concept with central nut and contact carrier
- Hygienic, visible blue gaskets
- High-quality, hygienic and chemical-resistant materials
- Durable, customisable symbols and logos applicable through lasering

APPLICATIONS
MACHINE OPERATION IN A HYGIENIC ENVIRONMENT



MAINTAINED JOYSTICK SWITCH NK

The compact, extremely robust and versatile maintained and spring return joystick switches of the NK series with IP69 protection are in particular demand in the food industry and in process engineering.

They are used to operate machines and systems in particularly harsh and humid environments. The device geometries are designed in such a way that corners and edges are avoided by the design. This makes cleaning the device heads much easier.

The hygienic joystick switches of the NK series can be moved in four directions, each triggering a different function: forwards, backwards, right and left. The switches are each assigned logically related functions so that the machine can be operated intuitively.

Electronic means can be used to ensure that users cannot combine several functions that do not go together.

This minimises the risk of operating errors.



NK

- Hygienic design
- For applications in food processing machinery
- Easy cleaning due to minimal dirt access and IP69
- High-quality, hygienic and chemical-resistant materials

APPLICATIONS

SAFEGUARDING OF DOORS, FLAPS AND PROTECTIVE SHIELDS ON MANUFACTURING AND PROCESSING MACHINES



SAFETY SENSOR BNS 40S

Safety sensors with different actuating elements are often used to safeguard doors, flaps and protective shields on manufacturing and processing machines.

These sensors send a safety-related signal to the safety relay module or the safety-related controller. Avoiding edges and creating smooth surfaces makes it easy to clean the device heads effectively.

The magnetic safety switches of the BNS 40S series, for example, were developed with the special requirements of food production in mind. The slim design with a finely ground surface fits very well into the typical surrounding construction of food processing machines. The housing is made of stainless steel and is therefore resistant to corrosion and cleaning fluids.

The developers have designed the sealing of the sensor and actuator in such a way that a high degree of protection is provided: IP69 means that the safety magnetic switch is ‘pressure cleaner-proof’. The high switching distance enables a concealed mounting behind non-ferromagnetic covers. In addition, particular emphasis was placed on avoiding dirt traps during the design.

With these properties, the BNS 40S can also be used in wet areas in accordance with the requirements of ‘Hygienic Design’. Its cables are suitable for use in the food industry, and the sensor itself meets the requirements of UL and ECOLAB. Two actuator variants for horizontal or vertical approach direction enable flexible mounting.

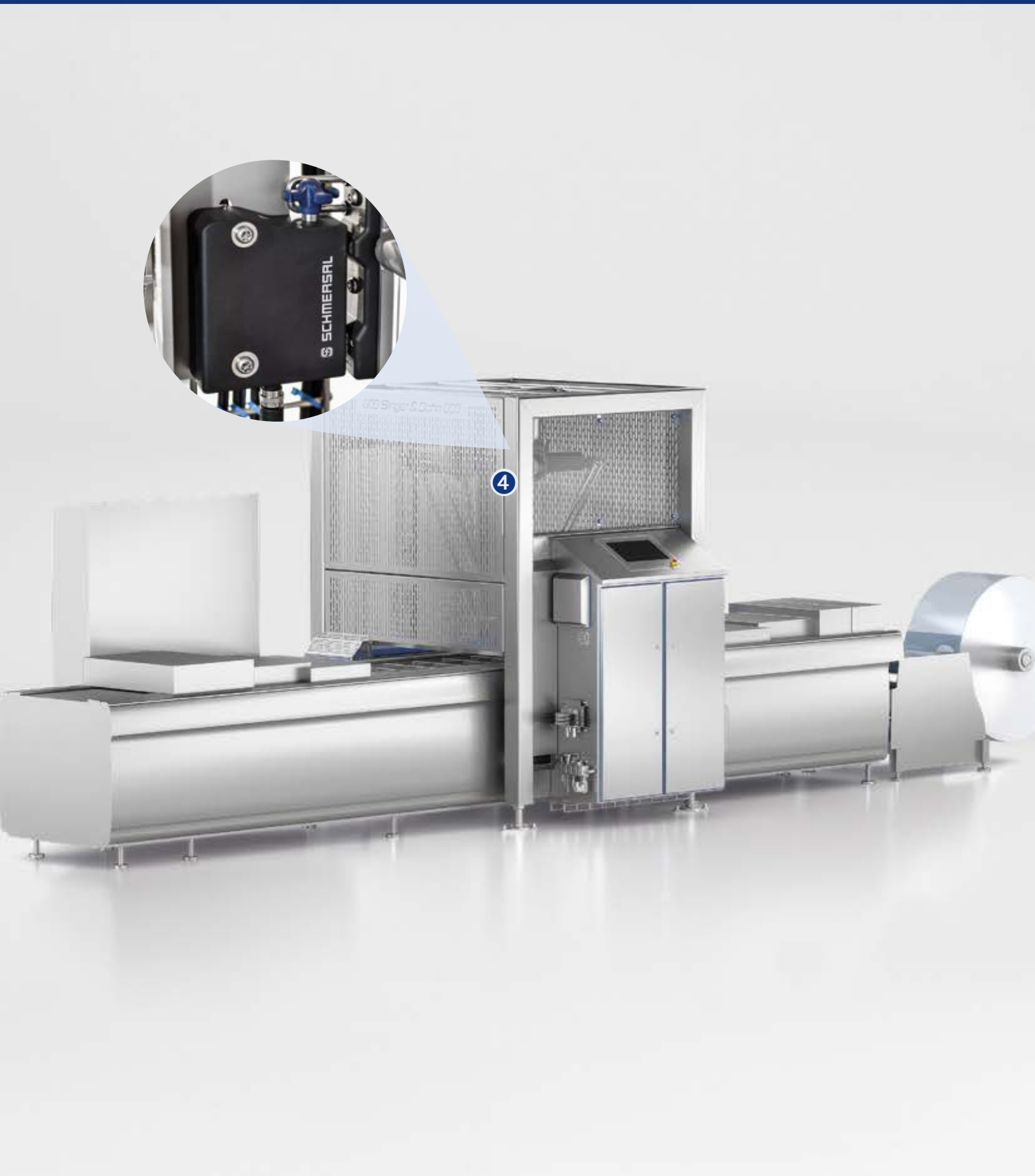
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BNS 40S

- Completely enclosed stainless steel enclosure
- Degree of protection IP69
- Suitable for food processing industry
- Connecting cable suitable for the food-processing industry
- Concealed mounting possible
- 88 × 27 × 14.5 mm
- Long life
- No mechanical wear
- Insensitive to soiling
- Insensitive to transverse misalignment

APPLICATIONS
SAFEGUARDING THE OPERATING AREA



SOLENOID INTERLOCK AZM300

A lot of plant and machinery must be secured with hinged, sliding or removable guards. Often, the aim is to prevent an operator from opening the safety door and thus stopping the process. In this case, solenoid interlocks are required that are equipped with mechanical components, because they hold the safety door closed until the hazardous movements in the work area have come to a stop.

Conventional solenoid interlocks are unsuitable here because they have openings for the locking and the holding and thus do not have a hygienic design.

The situation is different with the AZM300 solenoid interlock from Schmersal, which was specially designed for applications in food companies. Its main feature is a new locking system in the form of a Maltese cross that engages with the door-side actuator. This prevents dirt from collecting and makes cleaning easier, as there are no dead spaces or areas that are difficult to access.

Thanks to its IP69 rating, the AZM300 is ideal for applications in which machines regularly have to be cleaned with high-pressure cleaners. This high protection class ensures that the device remains functional even under harsh cleaning conditions. In addition, the innovative design of the AZM300 enables quick and easy installation and maintenance, which reduces operating costs and increases machine availability.

Another advantage of the AZM300 is its flexibility and adaptability. It can be mounted in different orientations, making it suitable for a wide range of machine configurations This facilitates integration into existing systems and enables customisation to the specific requirements of the food industry.

Overall, the AZM300 from Schmersal offers an advanced, safe and hygienic solution for safety guards in the food industry. Its unique design and technical features make it an efficient and reliable option for safeguarding machinery and equipment while maintaining hygiene standards and optimising operations.

4



AZM300

- Symmetrical mounting for right- and left-hinged doors
- Hygienic design
- Degree of protection IP66, IP67, IP69
- Can be used as end stop
- Individually coded version with coding level "High" according to EN ISO 14119
- Integrated latch with two selectable latching forces (~25 N / ~50 N)
- Manual release, emergency exit or emergency release
- Power to unlock / Power to lock

APPLICATIONS
EMERGENCY STOP FUNCTION



COMMAND AND SIGNALLING DEVICES
"H" SERIES WITH STAINLESS STEEL ENCLOSURE

Food processing machines must be equipped with an emergency stop button in accordance with the ISO 13850 standard. This standard ensures that, after the EMERGENCY STOP device has been actuated, hazardous movements and operation of the machine are stopped in a safe and appropriate manner.

Schmersal offers EMERGENCY-STOP switches in a hygienic, DGUV-certified design, which are additionally characterised by a robust stainless steel housing.

The advantages of the EMERGENCY STOP switches from Schmersal, particularly in a hygienic design, are many and varied. On the one hand, the stainless steel housing ensures a high level of resistance to the cleaning chemicals and processes commonly used in food processing. This is especially important in an industry where cleanliness and hygiene are paramount. The smooth surfaces and lack of dead spaces in the design of the switch minimise the risk of dirt and bacteria accumulating and help to ensure compliance with strict hygiene standards.

Another important advantage of the Schmersal EMERGENCY STOP switches is their user-friendliness. The intuitive operation ensures that staff can react quickly and effectively in an emergency. This contributes significantly to reducing the risk of accidents and to increasing general occupational safety.

Overall, the hygienic design of the Schmersal EMERGENCY STOP switches combines safety, hygiene and user-friendliness in a way that makes them ideal for use in the food industry.

They help to raise safety standards while also meeting the specific requirements of the industry.

1



“H” SERIES

- Hygienic certified design
- Easy to clean thanks to low dirt adhesion and IP69
- Simple installation concept with central nut and contact carrier
- Hygienic, visible blue gaskets
- High-quality, hygienic and chemical-resistant materials
- Durable, customisable symbols and logos applicable through lasering

APPLICATIONS
SAFEGUARDING OF HAZARDOUS AREAS IN HYGIENIC ENVIRONMENTS



SAFETY LIGHT CURTAINS/LIGHT GRIDS/LIGHT BARRIERS SLC/SLG 440/440COM IP69 / SLB440 IP69

In the food industry, not only are high demands placed on the tightness of non-contact protective devices.

In splash and wet areas, they are usually cleaned daily with water and highly effective cleaning agents or even with high-pressure cleaners or hot steam to reliably remove production residues. In the process, high mechanical stresses can also occur due to cleaning lances or contact with means of transport. The transparent casing must therefore be sufficiently stable not to splinter in such cases.

If this were to happen, it would result in the contamination of the production, which in turn would lead to production stoppages or even recall actions.

The SLC/SLG 440 series of safety light barriers and light curtains with IP69 protection was developed precisely for these adverse conditions. They are supplied ex-works in an encapsulated design that guarantees long-term durability, even when frequently exposed to steam cleaners or high-pressure cleaners.

This series differs from the basic series in that it has a protective polycarbonate enclosure that has been designed from the ground up for a long service life and high availability.

The closure caps, cable entries and mounting parts are made of stainless steel. The resistance to cleaning agents was tested and verified in the Ecolab laboratory. The protection tubes are carefully designed with end caps and an external and internal seal.

Furthermore, these optoelectronic protective devices offer additional functions such as an integrated blanking function, which allows a high degree of flexibility in application.



SLC/SLG 440/440COM IP69 SLB440 IP69

- Hygienic design and very robust, break and shock-resistance protective tube made of polycarbonate, degree of protection IP69
- Shock and impact resistant thanks to resistant protective tube
- Hygienic Design – suitable for food processing machines
- Resistant to cleaning – End caps, mounting and membrane made of stainless steel V4A

APPLICATIONS
SAFEGUARDING OF TRANSPORT AND CONVEYOR SYSTEMS



PULL-WIRE EMERGENCY-STOP SWITCH ZQ901

Pull-wire emergency stop switches are important safety devices used on food processing machines and food processing plants to trigger the EMERGENCY STOP command at any point along the pull wire. In contrast to EMERGENCY STOP mushroom pushbuttons, pull-wire emergency stop switch can be actuated at any point on the pull rope. When the tensioned pull-wire is pulled or a wire break occurs, the switching function of the pull-wire emergency stop switch is triggered. This function is particularly important in the food industry, where they are used in transport and conveyor systems. The pull-wire emergency stop switch enable the system to be shut down immediately in an emergency.

The new ZQ901 pull-wire emergency stop switch is characterised by its robust stainless steel enclosure. The stainless steel enclosure offers optimal mechanical and chemical protection in harsh environments and provides the ideal solution for a wide range of applications in new areas. Thanks to the new housing material, the ZQ901 can be used on transport and material handling systems as well as on large system used in the food processing and chemicals industries

The technology, which has been proven in industrial applications for many years, fulfils the highest availability requirements. The ZQ901 offers an emergency-stop function and manual reset, wire break detection and lengths of wire up to 75 metres. In conjunction with an appropriate safety analysis, a pull-wire emergency stop switch can be used up to PL e according to EN ISO 13849-1.

6



ZQ901

- Robust stainless steel housing
- Degree of protection IP69
- Lengths of wire up to 75 m
- Wire pull detection with wire breakage detection
- Reset pushbutton
- Twisting of towing eye not possible

APPLICATIONS
EVALUATION OF SAFETY SIGNALS



COMPACT SAFETY CONTROLLER PROTECT-SELECT

The individual safety areas of a machine or system are often monitored by several safety switchgears. In these cases, several safety relay modules are often required for signal evaluation. At the latest when several of these components are needed, the question arises for the designer as to whether it would be better to use a safety controller.

However, the 'leap' to this higher-complexity solution is a big one and involves additional programming effort. The multifunctional PROTECT-SELECT safety module closes the gap between safety relay modules and fully-fledged programmable safety controllers.

PROTECT-SELECT gives the designer many options for configuring the guard system and integrating it into the machine functions. Four different programs are available. Each program can be precisely adapted – without any programming knowledge, simply with the menu and clear text messages – to the specific application case. For example, drop-out delay and bounce times can be individually set and numerous parameters, such as cross-circuit monitoring, can be configured as required.

The four application programs cover a wide range of practical applications and enable safety functions to be implemented quickly and without programming. This enables the machine builder to optimally adapt the safety functions to the respective machine processes.

PROTECT-SELECT can be supplied in a customised OEM version as a fully programmed control unit. The advantages of this concept of safety-related signal evaluation are many and varied, and the numerous programme selection functions allow flexible adaptation to the application.

It also saves space in the control cabinet and costs, because one PROTECT-SELECT module replaces up to five safety relay modules.

7



PROTECT-SELECT

- Simple and flexible parameter setting
- No programming skills required
- 18 safety inputs for the redundant monitoring of all common safety sensors
- 2 safe analogous inputs
- 4 safe semi-conductor outputs
- Cleartext error and status messages
- Replaces up to 5 safety-monitoring modules up to PL e / SIL 3

APPLICATIONS
INTELLIGENT MACHINE NETWORKING



MODULAR SAFETY CONTROLLER PROTECT PSC1

In the food industry, the flexibility of machines and systems is an increasingly important factor. Organisations are looking for safety systems that not only provide the necessary safety functions, but also bring operational efficiency and cost benefits.

In plants where various safety switchgears such as EMERGENCY STOP switches are installed, it is crucial that the machine can be stopped at any point in the plant. The PROTECT PSC1 safety controller from Schmersal is an efficient solution for such complex systems

The basic version of the PSC1, including the models PSC1-C-10 and PSC1-C-100, offers extensive safety functions. It has 14 safe inputs certified to PL e according to ISO 13849 and SIL3 according to IEC 61508, four safe semiconductor outputs, two safe relay outputs, two signalling outputs and two pulse outputs for contact-based sensors. This variety of connection options allows for flexible integration into different machine configurations.

A key advantage of the PROTECT PSC1 is its expandability through safe IO extension modules. These modules can be installed both centrally in the control cabinet and decentrally on the machine. This flexibility makes it possible to customise the system precisely to the specific requirements and size of the respective plant. This allows users to optimise both the costs and the complexity of the safety system.

The use of PROTECT PSC1 in food processing machines offers further advantages. Thanks to its advanced safety features, the PROTECT PSC1 makes a significant contribution to reducing the risk of accidents. At the same time, it ensures smooth operations by guaranteeing fast response times to safety events, thus minimising downtime. This is especially important in the food industry, where downtime can result in significant losses.

In conclusion, the PROTECT PSC1 from Schmersal is an excellent choice for the food industry, combining safety, flexibility and efficiency in a single system. It enables companies to increase their safety standards while also improving operational efficiency.



PROTECT PSC1

- Connection for all standard safety relays up to PL e and SIL 3
- Modular expansion with up to 272 inputs / outputs
- Safe drive monitoring (SDM)
- Safe remote I/Os via Ethernet Safety Device to Device Communication (SDDC)
- Safe cross communication via Ethernet Safety Master to Master Communication (SMMC)

APPLICATIONS
BREAD SLICING MACHINES



COMPACT SAFETY CONTROLLER PROTECT-SELECT

Due to their operating principle, bread slicing machines have some specific requirements with regard to safety functions.

The bread is usually inserted by hand, so that the operator has direct access to the hazard zone. It is therefore particularly important to ensure that the cutting device is at a standstill at this moment and in a safe position.

In addition, it must be ensured that access to the blade is prevented during the cutting process, e.g. with a locked hood/flap. The position of the flap must lock the blade drive. In addition, further doors and flaps, e.g. for the control cabinet or for maintenance purposes, are usually to be monitored.

The detailed specific safety requirements for bread slicing machines can be found in the standards EN 13954-1 and 13954-2 (self-service).

The safety functions of an example bread slicing machine include:
- Locking of the drive by means of a monitored cover of the cutting chamber, realised with safety magnetic switches
- Locking of the drive through monitored control cabinet door, realised with magnetic safety switches
- Drive interlock through monitored maintenance hatch, realised with magnetic safety switches
- Standstill monitoring of the blade drive
- Monitoring of the parking position of the blade

In addition, an EMERGENCY STOP function is being implemented. The sensors and safety switchgears used are evaluated with the multifunctional safety module PROTECT-SELECT. The advantage of this safety module is that the configuration can be adapted and programme parameters set via the colour display. The display also shows plain text status messages, which is very useful during commissioning and maintenance. Furthermore, the module has a simple protocol interface for sending status data to a PLC.

The solution realised in this example takes into account both the functional requirements and the desire for a solution that is as cost-effective as possible. The factory-installed and validated application programs also simplify the requirements for the customer with regard to the validation of the application software according to EN 13849-2.

7



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PRODUCT OVERVIEW
OUR HIGHLIGHTS FOR THE FOOD AND BEVERAGE INDUSTRY

1



“H” SERIES

- Hygienic certified design
- Easy to clean thanks to low dirt adhesion and IP69
- Simple installation concept with central nut and contact carrier
- Hygienic, visible blue gaskets
- High-quality, hygienic and chemical-resistant materials
- Durable, customisable symbols and logos applicable through lasering

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NK

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- High-quality, hygienic and chemical-resistant materials

3



BNS 40S

- Completely enclosed stainless steel enclosure
- Degree of protection IP69
- Suitable for food processing industry
- Connecting cable suitable for the food-processing industry
- Concealed mounting possible
- 88 × 27 × 14.5 mm
- Long life
- No mechanical wear
- Insensitive to soiling
- Insensitive to transverse misalignment

4



AZM300

- Symmetrical mounting for right- and left-hinged doors
- Hygienic design
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- Can be used as end stop
- Individually coded version with coding level "High" according to EN ISO 14119
- Integrated latch with two selectable latching forces (~25 N / ~50 N)
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5



SLC/SLG 440/440COM IP69
SLB440 IP69

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- Shock and impact resistant thanks to resistant protective tube
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PRODUCT OVERVIEW
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tec.nicum
Schmersal Group

Your partner for machine safety and workplace protection

In the Schmersal Group, tec.nicum is the department for services relating to machine and industrial safety.

Thanks to its worldwide consultancy network, tec.nicum services are available around the globe.
tec.nicum provides customers with competent, product- and manufacturer-neutral advice and supports them in the safety-related design of their machines.

The range of services offered by tec.nicum comprises six segments:

- **tec.nicum academy**
  Knowledge transfer
- **tec.nicum consulting**
  Consultancy
- **tec.nicum engineering**
  Technical planning
- **tec.nicum integration**
  Execution and implementation
- **tec.nicum digitalisation**
  Software solutions and new digital technologies
- **tec.nicum outsourcing**
  Complete solutions



For detailed information, check out
www.tecnicum.com

THE SCHMERSAL GROUP
PROTECTION FOR MAN AND MACHINE



In the demanding field of machine safety, the owner-managed Schmersal Group is one of the international market leaders. The company, which was founded in 1945, has a workforce of about 2,000 people and seven manufacturing sites on three continents along with its own companies and sales partners in more than 60 nations.

Customers of the Schmersal Group include “Global Players” in mechanical engineering and plant manufacturing and operators of machinery. They benefit from the company’s extensive expertise as a provider of systems and solutions for machine safety. In addition, Schmersal specialises in various areas including intralogistics, foodstuff production, the packaging industry, machine tool industry, lift switchgear, heavy industry and the automotive industry.

A major contribution to the systems and solutions offered by the Schmersal Group is made by tec.nicum with its comprehensive range of services: Certified Functional Safety Engineers advise machinery manufacturers and machinery operators in all aspects relating to machinery and occupational safety – and do so with product and manufacturer neutrality. Furthermore, they design and realise complex solutions for safety around the world in close collaboration with the clients.

SAFETY PRODUCTS

- Safety switches and sensors, solenoid interlocks
- Safety controllers and safety relay modules, safety bus systems
- Optoelectronic and tactile safety devices
- Automation technology: position switches, proximity switches

SAFETY SYSTEMS

- Complete solutions for safeguarding hazard areas
- Individual parametrisation and programming of safety controllers
- Tailor-made safety technology – be it for individual machines or a complex production line
- Industry-specific safety solutions

SAFETY SERVICES

- tec.nicum academy – Seminars and training
- tec.nicum consulting – Consultancy services
- tec.nicum engineering – Design and technical planning
- tec.nicum integration – Execution and installation
- tec.nicum digitalisation – Software solutions and new digital technologies
- tec.nicum oursourcing – Complete solutions

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SCHMERSAL
THE DNA OF SAFETY

The details and data referred to have been carefully checked.
Subject to technical amendments and errors.

www.schmersal.com