

## Heavy industry

Materials handling industry systems



**SCHMERSAL**

Safe solutions for your industry

# Safety Technology for Bulk Material Handling



## Global Distributorship

The Schmersal Group and the Coal Control Gesellschaft für Automation mbH have established a global distribution partnership in the field of safety technology for bulk material handling. The product portfolios of both companies provide a useful addition which enables us to offer customers in the extractive industry complete solutions from a single source.

## Entire Process Chain

The heavy industry division of Schmersal manufactures switchgear which are used for all levels of the process chain - including the raw material exploration, the extraction of raw materials and the processing of raw materials. Schmersal focused on providing safety solutions for the protection of people and processes. The protective devices of Coal Control on the other hand, secure the high quality and cost-intensive handling systems of the customer against damage. The band monitoring systems of the company help to reduce investment and maintenance costs and to extend the service life of conveyor belts.

## Consultancy Services

To add to the combined range of products, both companies also offer extensive consultancy services. Schmersal and Coal Control offer their unique combination of high-end safety technology and solid know-how to their customers around the globe.





## Schmersal Group

The privately owned Schmersal Group has been developing and manufacturing products to enhance the safety at work for decades. The company was founded in 1945 and is represented by seven manufacturing sites on three continents with its own companies and sales partners in more than 60 nations. In the demanding field of machine safety the Schmersal Group is one of the international market and component leaders. On the basis of a comprehensive product portfolio, the company's approximately 2000 employees develop and design complete solutions for the safety of man and machine.

Customers of the Schmersal Group include "Global Players" from the mechanical engineering and plant manufacturing and operators of machinery.

Schmersal has special expertise in the raw materials industry, such as in mining and in heavy engineering. In addition the tec.nicum services division of the Schmersal Group also offers comprehensive safety services.

In many industrial sectors the requirements of explosion protection apply. For this particular scope Schmersal has established its own centre of excellence that develops and produces safety components which comply with the requirements of the ATEX Directive 9/49 EC.

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## Coal Control Gesellschaft für Automation mbH

Since 1995, the Coal Control Gesellschaft für Automation mbH has been developing and producing control systems for the international mining industry. Through the acquisition of the technologies of the montanic research by Dr. Hans Ziller KG during the 90s, Coal Control has in-depth know-how and decades of experience in international mining.

The company enjoys an excellent reputation as a manufacturer of innovative, electro-technical control and automation technology for the mining industry worldwide.

Coal Control is one of the technology and innovation leaders in the field of detection of longitudinal slots in belt conveyors as well as in the control and automation of central air conditioning systems in underground mining.

The control systems of Hilden company are manufactured using the latest technology for above-ground and underground mining operations.

The company's philosophy is focused on the high quality requirements of customers who expect a well planned and smooth transportation of their valuable goods, as well as the implementation of customised solutions.



**1 LEVEL CONTROL** On belt transfer stations or in silo installations, the level of bulk goods such as granulates, powder or seeds often need to be monitored. For this application, Schmersal has developed a level switch for heavy-duty applications. Depending on the application the user selects either electro-mechanical or non-contact operation.

**2 COMAND CONTROL** Dust, varying temperatures and an often "rough" handling: command devices installed on transport and conveyor plants must be able to permanently withstand harsh conditions. Our robust command devices and indicator lights, joystick switches and surface-mounted enclosures have been specially developed for such applications and provide for a safe switching.

**3 SIGNAL CONTROL** In the "Safe Signal Processing" you find safety relay modules and networks for a variety of tasks for safety technology (such as for emergency stop systems), as well as centralised and distributed microprocessor-based systems. These include for example, configurable and programmable safety controllers and safety networks, which are characterised by a high degree of flexibility.





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**STOP CONTROL** Our pull-wire emergency-stop switches guarantee a reliable emergency stop function with wire breakage monitoring on conveyor plants with single-sided effectiveness over a distance of 75 m on one side and 2 x 50 m on both sides. All pull-wire emergency stop switches are insensitive to external influences such as torsion, vibrations and temperature variations.

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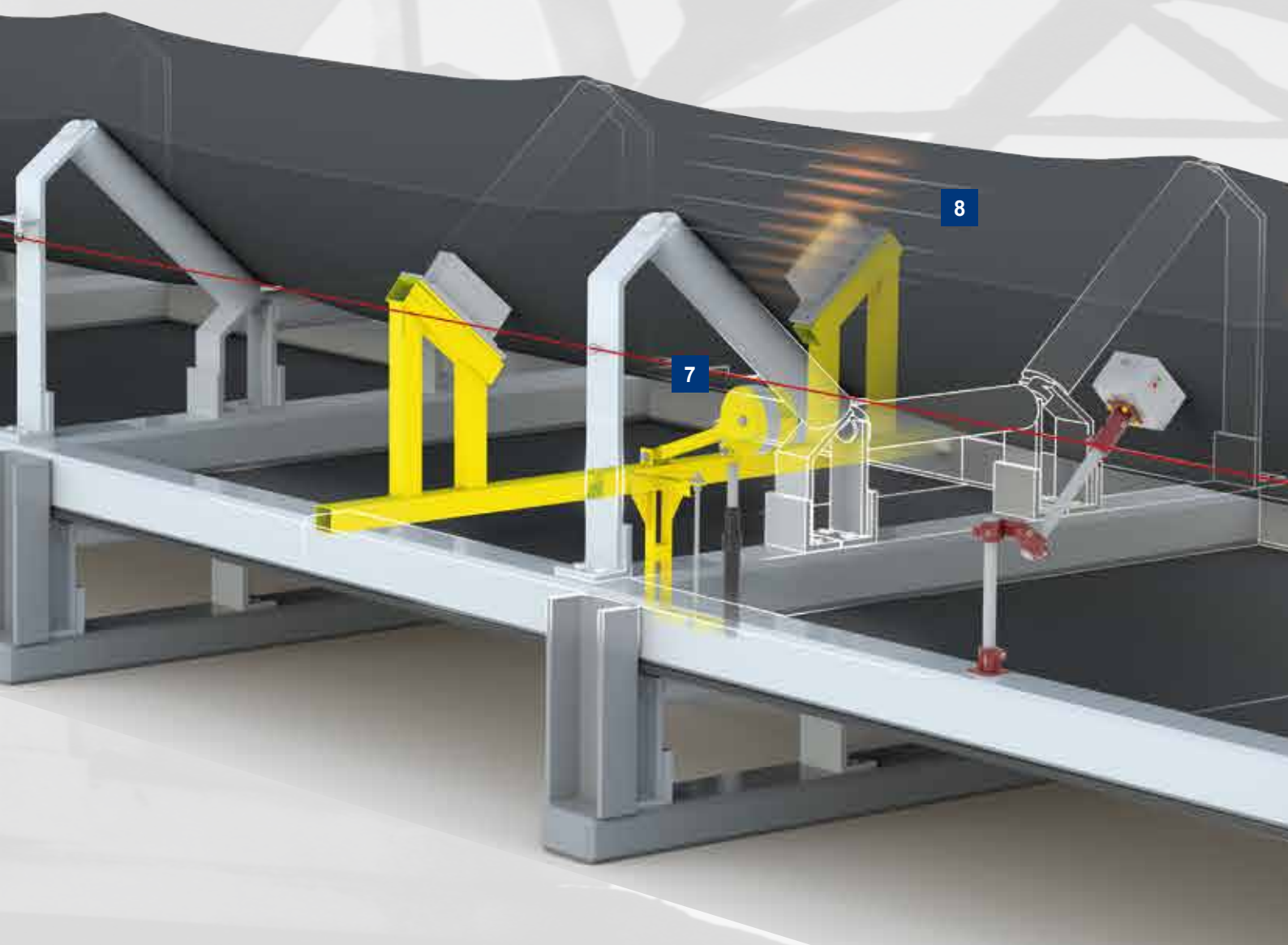
**BELT CONTROL** Belt alignment switches monitor the straight running of conveyor plants. If the conveyor belt moves off-centre from the drive and pulleys the switching devices trigger. With staggered switching a pre-warning for example is initiated with 10° deviation and the conveyor belt is switched off for example at 25°. Individual staggered switching is available upon request.

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**ACCESSORIES** For the installation of the safety devices on the machine we offer a tailor-made system concept of accessories for belt alignment switches with 32 and 90 mm roller diameter or matched fittings for single sided or dual sided emergency stop wire-breakage monitoring.

**7** **SPEED CONTROL** Speed monitoring on the belt and the conveyor system to limit damage on still conveyor systems and for the fill level and wear optimisation on chained conveyor systems including belt slippage detection.

**8** **SPLICE CONTROL** is a measuring system for the monitoring of conveyor belt connections. It carries out precise measurements of every belt connection and signals any deviations in the length of the connection.





## Belt rupture and belt split monitoring

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**RIP CONTROL** is a monitoring system for early detection of longitudinal slits in your conveyor belt. It monitors the danger points where the feed and discharge of the belt takes place which is where the chance of splitting is the largest.

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**CORD CONTROL** is a tensile support monitoring system and allows precise diagnose of the condition of the utensil support in your steel cable conveyor belt system. It signals in good time any changes in the steel cable and the tensile strength of the connected conveyor belt system.

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#### Machine safety on conveyor systems

- Machines and personnel protection
- Positional acquisition, command and signalling devices, safe signal processing

#### Process safety on conveyor systems

- Process and investment protection
- Conveyor monitoring, automation and control technology



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