

## Safety Solutions

# Safeguarding infeed points at printing and paper processing machines

### Safety at Leuze



### Increased safety during setup operation

The increasing automation of machines and systems places growing demands on safety concepts. At the same time, the requirements on the safety of workplaces and work processes are also increasing - for example, when machine operators have to perform manual tasks at hazardous points of operation. Forward-looking machine and work safety therefore not only protects the operating personnel, but also forms the basis for high machine utilization.

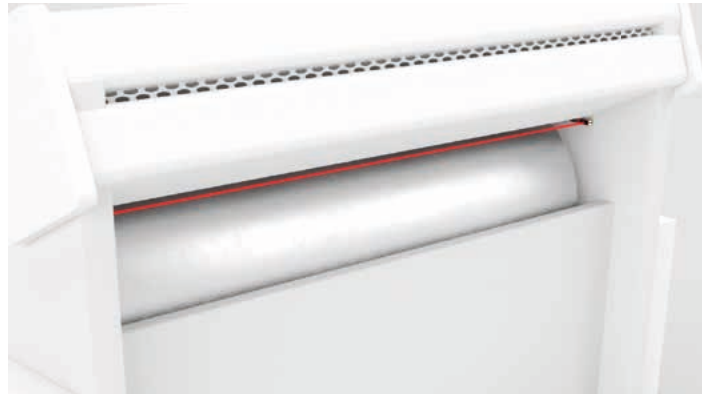
Printing machines - e.g. for offset printing - often consist of separate printing units for each color. For manual loading of the printing plates or blankets, the printing units arranged in rows are

moved apart. The manual setup process take place directly at the infeed point of the rollers and requires maximum attention from the operating personnel. Here, despite using the machine in inching mode, accidents due to injuries/crushes to fingers and hands occur time and again.

Our safety solution for additional protection of infeed points on printing machines is specially designed for these applications. It detects the fingers and hands of operators at the infeed points with little installation effort. This reduces the risk inherent in the principle and significantly increases the safety of the operating personnel.

# Safeguarding infeed points at printing and paper processing machines

**Requirement:** During setup operation, the printing plates and blankets must be inserted manually. Here, the rollers are controlled by the operator in inching mode - e.g. by a foot switch. In addition to the selected operating mode, the infeed point should be safeguarded against access by fingers/hands.



**Solution:** A photoelectric sensor, which is connected to a safety system, is installed directly in front of the infeed point (point of hazard). If the sensor detects an approach of a finger or hand to the point of hazard, the dangerous movement is reliably stopped by the safety system. The original work process remains unchanged

## Working principle

The safety function is active during inching mode. The horizontal light beam of the photoelectric sensor is mounted in front of the hazard point of the rollers. The sensor is mounted in such a way that the setting and adjustment of the machine is possible, but a too strong approach of fingers or hands to the hazard point leads to the interruption of the light beam. Immediately after the light beam is interrupted, the safety system switches off the dangerous movement. As soon as the light beam is free again, the movement can be continued in inching mode.

## Complete solutions – Tailored to your needs

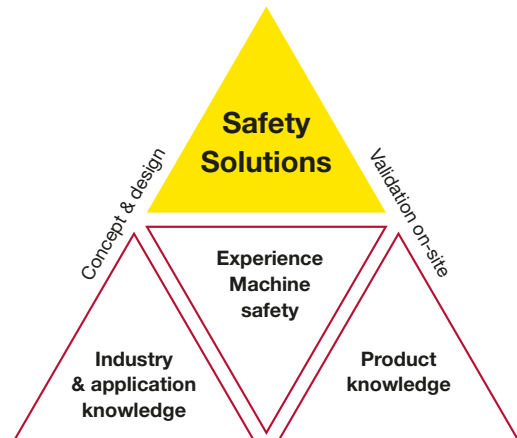
Our solutions are based on qualified safety concepts which, if necessary, can also be extended or created new. Every solution is individually tailored to your system layout and includes

- All necessary hardware and software components
- Engineering services, such as PLC programming and configuration according to project requirements
- Full documentation, CE-compliant
- Start-up support
- Validation of the safety function



## Your benefits

- Save time and money with our pre-developed and process optimized safety solutions
- Safeguarding the infeed area of printing machines avoids hazards during insertion
- Seamless safety during the insertion process
- High reliability and availability
- Easily retrofittable



## System components and safety parameters

Sensor: Throughbeam photoelectric sensor series 3C
Evaluation unit: Safety relay MSI-TR1B
PL b in acc. with EN ISO 13849-1, SIL <sub>CL</sub> 1 in acc. with IEC 62061
2-channel safety output

## Your partner for professional safety solutions

For more than 30 years, we have been supporting safety-related applications in different industries by offering a broad range of products. Our certified safety experts have extensive experience in designing safety concepts and comprehensive knowledge of the latest norms and standards. In the projects, we accompany you from the gathering of the requirements up to the safety-related acceptance. Our teams make sure that our solution meets your requirements and ensure that your project runs smoothly.