

# Intelligently Secure Systems Safety technology



### **Introduction to Safety Technology**

Safety technology for body, hand and finger protection is used to protect both man and machine. Certified according to international standards, light barriers and curtains with or without muting functions, safety switches, locking devices, emergency stops, relays and protection columns protect all production systems.



#### **Comprehensive System Protection**

- Intelligent machine protection at all access and contact points
- Safety solutions for all areas and industries



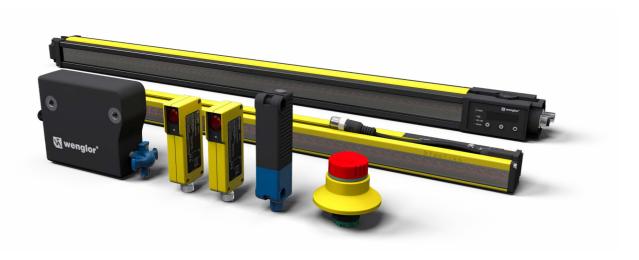
# Safe Cooperation Between Human and Machine

- Access and reach-in protection on moving machine parts
- Productive human-robot collaboration



#### Certification According to International Standards and Guidelines

- Certification according to DIN EN ISO 13849-1
- Certification according to EN 61496
- EU Machinery Directive



### **Electro-Sensitive Protective Equipment**

Electro-sensitive protective equipment (ESPE) detects the entry of a person or part of the body into a safety field by means of optical sensors without direct mechanical contact. ESPE are therefore used to secure hazardous areas on machines.

Thanks to different resolutions, the various safety light curtains and safety light arrays offer the highest level of finger, hand or body protection.



#### **Finger Protection**

The manufacture of cable harnesses is subject to the highest function and quality tests, which are carried out automatically on so-called test benches. In order to prevent a worker from intervening, the systems are secured with safety light curtains with finger protection.



#### Hand Protection

When manufacturing window profiles, mobile system parts such as moving carriages must be able to move as much as possible and be secured at the same time. Zone protection is installed via safety light curtains for hand protection.



#### **Body Protection**

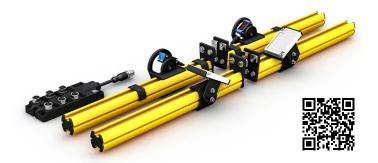
The automated loading and unloading of palletizing stations in the wood industry must be secured from all sides. Thanks to safety light arrays, the system switches off immediately as soon as a worker enters the zone.



# **Muting Sets**

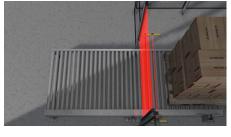
Muting sets consist of muting sensors and arms that create a fully integrated muting station together with the safety light arrays or safety light curtains.

The muting feature allows for objects to be transported through the hazardous area of a machine or system.





**Two-Sensor Cross-Muting** for safe transport of materials into and out of the danger zone



**Two-Sensor Linear Muting** for safe transport of materials out of the danger zone



#### Four-Sensor Linear Muting

for safe transport of materials into and out of the danger zone with sequence and time monitoring

# **Safety Guards**

Safety guards are a kind of physical barrier to protect people from the dangers of machines. They also protect the machine from humans when, for example, time-critical processes must not be interrupted by people approaching.

RFID safety switches and safety switches with lock function are designed for use in safety circuits and are used to monitor the positions of movable guards, for example safety doors. Guard locking devices ensure an electronically monitored locking device via an electromagnetic latch.





### **Command Devices**

Command devices are used when safe communication between human and machine must be ensured. They are required, for example, to set up, start, shut down or end machines or automated processes.

With the certified emergency stop products, machines are brought to a standstill in emergency situations, enabling switches allow work to be carried out in the danger zone of production systems.



## Safety Relays and Analysis Modules

Analysis modules monitor through-beam sensors to detect interruptions and switch off the safety output. Safety relays evaluate signals from emergency stop switches and protective devices and enable standard-compliant safety functions in accordance with EN ISO 13849-1, EN 60204-1, as well as potential-free disconnection of electrical circuits.











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