Optoelectronic Sensors

Cubic Series
Cylindrical Sensors, Mini Sensors, Fibre Optic Amplifiers
Measuring Sensors
Special Sensors
Light Curtains
Forked Sensors
Double Sheet Monitoring, Splice Detection
Accessories

Identification Systems
Data Transmission Systems
Distance Measurement

Barcode Readers
RF-IDent-System
Modular Interfacing Units
Industrial Image Processing Systems
Optical Data Transmission Systems
Optical Distance Measurement/Positioning
Hand-Held Readers

Safety Sensors
Safety Systems
Safety Services

Safety Laser Scanners
Safety Light Curtains
Transceiver and Multiple Light Beam Safety Devices
Single Light Beam Safety Devices
AS-i-Safety Product Range
Safety Sensor Technology for PROFIBUS DP
Safety Switches and Safety Locking Devices
Safety Relays and Safety Interfaces
Sensor Accessories and Signal Devices
Safety Engineering Software
Machine Safety Services

Leuze electronic

SOLID
Reliable Safety Light Curtains for optimum
productivity in every industry

SOLID – the **standard**, that **sets** standards. Uncomplicated, long-living and "lean".

Combine high productivity with flexible safety sensor technology.

A reliable and fail-safe safety sensor system is a prerequisite for high system availability and achieving production targets. At the same time the increasing cost pressure of global competition also demands an economical safety system.

Meeting these core requirements was the maxim in developing the SOLID Safety Light Curtains, which are used wherever people and machines work "hand-in-hand" and safety at work is a top priority.

They can be installed vertical for hand and finger protection, as access guarding, or horizontal as danger zone guarding, and meet the highest integration potential, availability and cost-efficiency requirements in this respect.
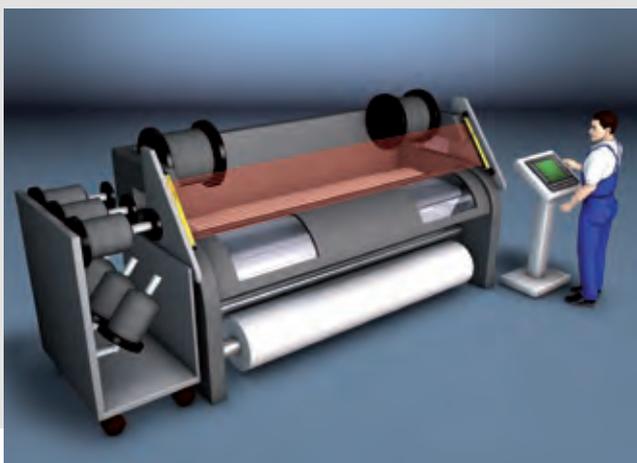
Typical SOLID features

- Slender and robust aluminum housing (30 mm x 34 mm)
- Fault-free operation of adjacent devices with selection of different transmission channels
- Easy function selection with external wiring
- Maintenance-free with safety transistor outputs (OSSDs)

SOLID-2E/SOLID-4E functions

- Start/restart interlock, selectable
- Dynamic contactor monitoring, selectable
- 2 transmission channel, selectable
- LED and 7-segment display

Matured to satisfy all safety requirements.

Compliance with standards	SOLID-2 /-2E	SOLID-2/SF	SOLID-4E	SOLID-4*cutter*
IEC/EN 61496	Type 2	Type 2	Type 4	Type 4
IEC/EN 61508	SIL 2	SIL 2	SIL 3	SIL 3
EN ISO 13849	PL d	**PL d**	PL e	PL e
C Standards	–	EN 1010-1/-2	–	EN 1010-3

From **classic installation** to **universal use**, on through **special applications**.

SOLID-2, SOLID-2E –
the Type 2 all-rounder

With the tried, tested and proven SOLID-2 Safety Light Curtain, Leuze electronic has laid the foundation for the successful SOLID series. These devices boast a robust housing design and high interference immunity. The functionalities and 20, 30, 40 and 90 mm resolutions enable cost-optimized solutions with the most diverse applications.

SOLID-2/SF –
special solution for the
graphics industry

Tailor-made system for guarding the sheet delivery of sheet-fed printing machines. CE, TÜV and IP 65 tested.
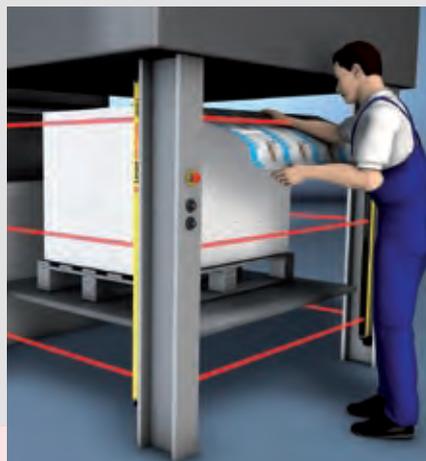
SOLID-4E –
the Type 4 all-rounder

The SOLID-4E series Safety Light Curtains provide reliable protection and ensure the highest level of system availability with their robust and fail-safe construction. Variants in 14, 20, 30, 40 and 90 mm resolutions guarantee quick mounting times with their slender design and versatile fixing options. This Light Curtain therefore also makes flexible, cost-optimized safety solutions possible.

SOLID-4*cutter* –
special solution for
paper cutting machines

Efficient integration in new cutting systems; easy conversion of older cutting systems. CE, TÜV and IP 54 or IP 65 tested.

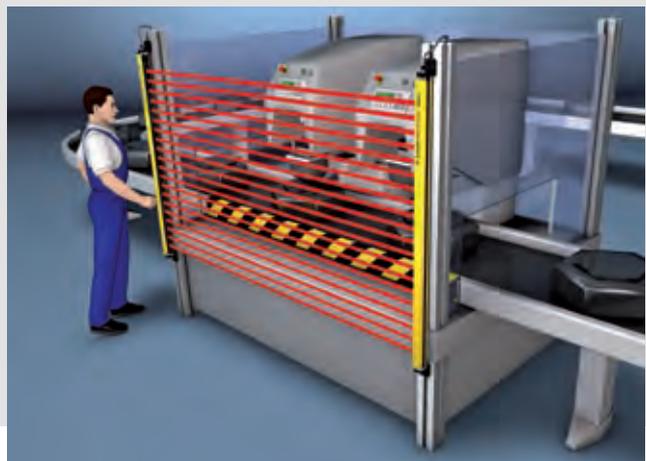## Type 4 SOLID-4E Safety Light Curtains with selectable functions

Protected by a warp-resistant profile housing closed on four sides and with their straightforward M12 connection system, SOLID-4E Curtains withstand even the toughest industrial conditions. The restart interlock and contactor monitoring functions and two different transmission channels for the fault-free operation of closely positioned adjacent devices are freely selectable.

Typical application areas: Automotive and automotive supplier industry, building material and glass machinery, print and paper processing, electrical and electronics manufacturers, robotics, shoe and leather industry, tobacco industry, packaging machinery, presses, wood processing machinery, special machinery construction.

Type 2 SOLID-2 and SOLID-2E Safety Light Curtains with integrated cyclical testing

Typical application areas: Storage and conveyor systems, textile machinery, the graphics industry, wood processing and semiconductor industry machinery, automatic loading systems, packaging machinery.

SOLID solutions –
as flexible as your production.

Benefit from versatile, application-oriented
and cost-efficient safety technology.

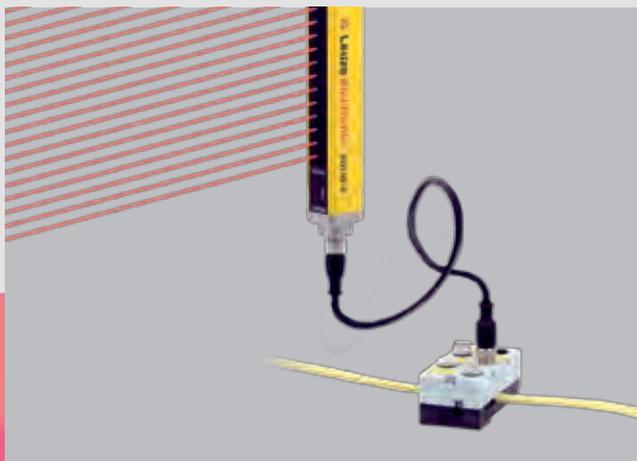## Cascadability for further solutions

Cascading **SOLID-4E** Safety Light Curtains in combination
with the slender, torsion-rigid housing provides further
guarding options:
- Point of operation guarding with zone guarding
  (rear area guarding)
- L and U-shape variants for multiple side guarding

Easy connection to the AS-Interface Safety at Work bus system

SOLID 2 and **SOLID-4E** Safety Light Curtains can be
coupled so easily to AS-i networks with the ASKM2 Safe
Coupling Module.

Special appications for the printing and paper industry
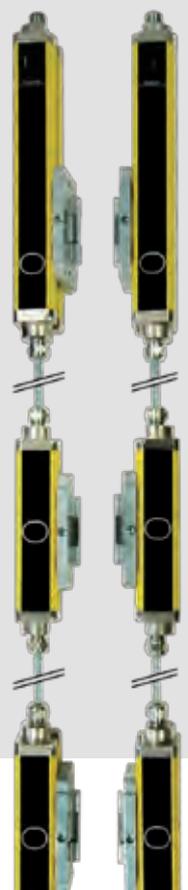
SOLID-4*cutter* **Safety Light Curtain**:
a tailor-made solution for paper cutting machines.
- Various electrical connections
- Several mounting plates and housing colors

SOLID-2/SF Multiple Light Beam Safety Devices:
the perfect solution for extension arm guarding on
sheet-fed printing machines.
- 2 and 3-beam; 4-beam system also optional
- Fast integration with easy alignment,
  wiring and installation

Function extensions are easy – no problem

- Muting or single-cycle/double-cycle control with the intelligent MSI-m, MSI-i or MSI-mi Safety Interfaces
- Additional connection of Safety Switches or E-STOP devices with the intelligent MSI-sx, MSI-ix, MSI-mx or MSI-mix Safety Interfaces
- Optional protective screens for operation in tough environments; near a welding system, for example
- Leuze electronic Machine Safety Services: services for everything to do with machine safety – safety inspections, for example