

MLC 530 SPG / MLC 535 SPG RR

Safety light curtains with Smart Process Gating

Safety at Leuze



The MLC 530 SPG/MLC 535 SPG RR safety light curtains with Smart Process Gating offer a space-saving alternative for access guarding on conveyor lines. With this innovative technology, process control takes place in combination with the system control. Smart Process Gating requires no muting sensors and operates exceptionally reliably.

Areas of application

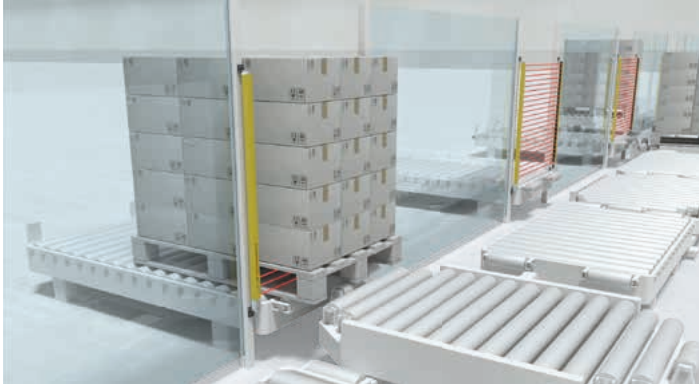
- Access guarding on conveyor lines, with gating function for bridging to allow material transport

Advantages for you at a glance

- No trigger sensors required
- Space-saving system design
- Reliable operation and high availability
- Optimum protection against manipulation
- Low installation effort

		MLC 530 SPG	MLC 535 SPG RR
Features	Necessary control / achievable performance level	Standard SPS / PL d Safety SPS / PL e	Standard SPS / PL d Safety SPS / PL e
	Protective field lengths	14 mm: 900 – 1,800 mm in 300 mm steps 30 mm, 40 mm: 150 – 3,000 mm 90 mm: 450 – 3,000 mm in 150 mm steps	14 mm: 1,200 mm 30 mm: 600 – 2,100 mm 40 mm: 900 – 2,100 mm in 150 mm steps
	Resolutions	14 mm, 30 mm, 40 mm, 90 mm optionally mixed	14 mm, 30 mm, 40 mm optionally mixed
	Operating range	10 m, 20 m	10 m, 20 m
	Profile cross section	29 × 35 mm	29 × 35 mm
	Temperature range	–30 °C ... 55 °C	–30 °C ... 55 °C
	Response time	100 ms	50 ms or 100 ms
Functions	Blanking	✓	
	Partial gating	✓	
	Qualified stop	✓	
	MaxiScan	✓	✓
	Reduced resolution		✓

Space-saving — reliable — optimally protected

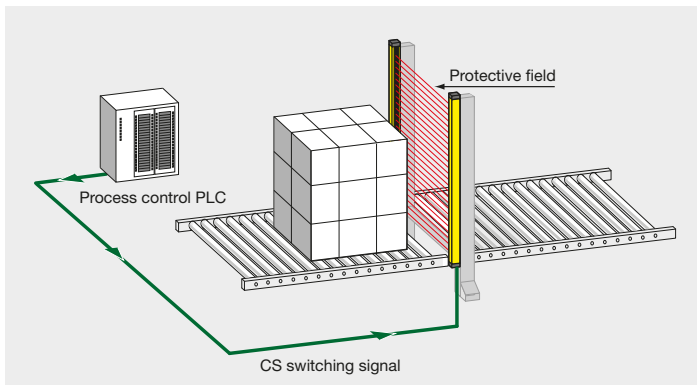


Space saving: Smart Process Gating does not require any additional trigger sensors for bridging of the protective function, thereby allowing a particularly compact system design.

Reliable: Smart Process Gating ensures the reliable passage of transported goods through the system, even with incomplete or changing loads.

Optimum protection: The gating process starts only in combination with the system control and cannot be bypassed by the operating personnel

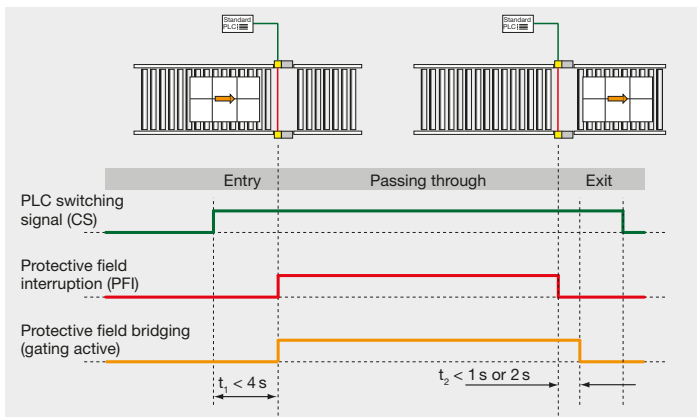
No trigger sensors required



With Smart Process Gating, process control takes place in combination with the system control. A switching signal provided by the PLC and interruption of the protective field by the transported goods are used as triggers for activation of the gating function.

No additional trigger sensors are required.

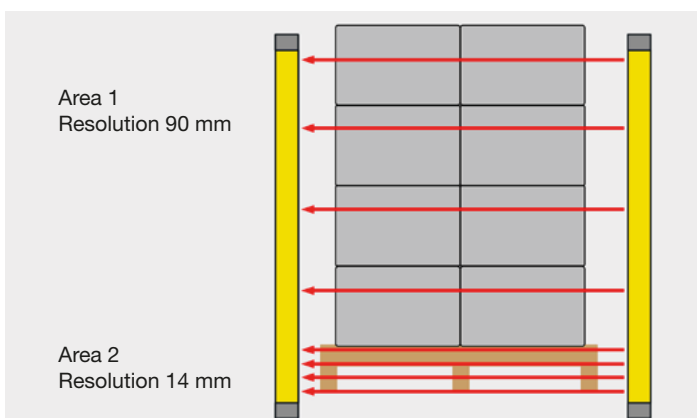
Operating principle and signal response



The gating function (bridging of the protective field) is activated by the correct sequence of switching signal and protective field violation and monitored by the light curtain.

The gating ends either automatically after the transported goods pass through or — in the case of higher conveyor line speeds — by resetting the switching signal.

Mixed resolution for reliable pallet detection

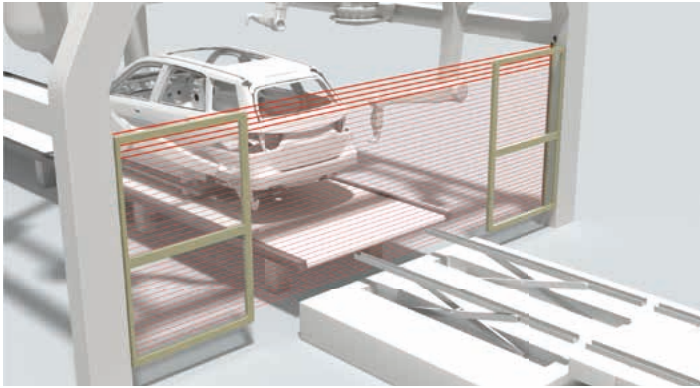


To ensure reliable detection of empty pallets, the light curtain needs to have a sufficiently high resolution (14 mm) in the area where the pallets pass through. In the area above, a lower resolution (e.g., 90 mm) is usually sufficient, depending on the required safety distance.

The optimal solution is a safety light curtain with mixed resolution—two areas, adapted to the respective requirements. This provides maximum safety while avoiding unnecessary costs.

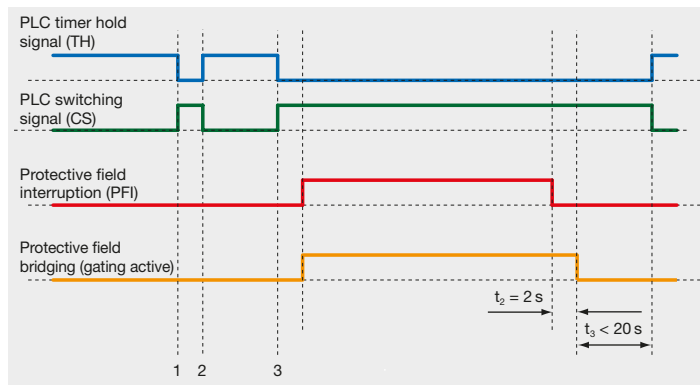
MLC 530 SPG

Two safety functions combined



In 'Partial Gating' mode, the upper beams of the light curtain remain active during gating and can therefore be used to simultaneously monitor a second safety function. The example shows parallel monitoring of the pendulum flaps by the safety light curtain. The safety light curtain continues to monitor the closed state of the flaps during gating. The otherwise usual safety switches for monitoring the flaps are no longer required.

Qualified stop

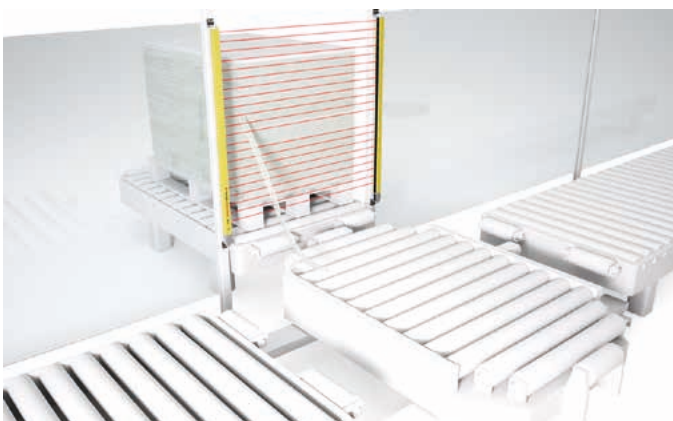


The "Qualified stop" and "Partial gating" operating modes are optimized for low conveyor speeds, as are common in, e. g., the automotive sector. At low speeds, the conveyor process can stop extremely quickly. Since the SPG process requires the protective field to be interrupted no later than 4 s after activation by the control signal (CS), these operating modes include the additional function 'Qualified stop'.

This allows an initiated gating sequence to be specifically interrupted within the 4 s (qualified stop) and then restarted. The process can therefore continue operating without interference, even in the event of an unplanned stop.

MLC 535 SPG RR

Reduced resolution for increased machine availability



At the start or end of gating, gaps between conveyed goods or protruding packaging material can cause interference. In operating modes with reduced resolution, ten adjacent beams are logically linked – small objects are thus ignored and cannot trigger a protective field interruption. Only when eleven beams are interrupted simultaneously will the OSSDs switch off. The result: greater robustness and stable system operation thanks to fewer unplanned downtimes.

Our portfolio at a glance

Switching sensors

- Optical sensors
- Inductive sensors
- Capacitive sensors
- Ultrasonic sensors
- Fiber optic sensors
- Fork sensors
- Light curtains
- Special sensors

Measuring sensors

- Distance sensors
- Positioning sensors
- 3D sensors
- Light curtains
- Bar code positioning systems
- Fork sensors

Safety

- Safety Solutions
- Safety Laser Scanners
- Safety Light Curtains
- Single and Multiple Light Beam Safety Devices
- Safety Radar Sensors
- Secure Locking Devices, Switches and Proximity Sensors
- Safety Controllers and Relays
- Machine Safety Services

Identification

- Bar Code Identification
- 2D-Code Identification
- RF Identification

Data transmission

- Optical data transmission systems

Network and connection technology

- Connection technology
- Modular connection units

Industrial image processing

- Light section sensors
- Smart camera

Accessories and add-on products

- Signaling devices
- Mounting systems
- Reflectors

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