

Light Curtain Convergence Switch



Article Overview

A Light Curtain Convergence Switch is a safety device that ensures machines stop when a light curtain beam is interrupted, often integrated with safety relays to prevent operator access to hazardous zones.

Function and Operation

A Light Curtain Convergence Switch works in conjunction with a light curtain, which consists of a transmitter and receiver projecting parallel infrared beams across a danger zone. When an object or person interrupts one or more beams, the switch signals the machine to stop immediately, ensuring a safe condition . The convergence switch often interfaces with dual-input safety relays or two-hand operation consoles to verify that multiple safety conditions are met before allowing machine operation .

Integration with Safety Relays

In advanced setups, the light curtain outputs (OSSD1 and OSSD2) are monitored by a safety relay. The relay only enables the machine if all safety conditions are satisfied: the light curtain beams are uninterrupted, two-hand operation buttons are pressed simultaneously, and feedback circuits are closed. If any condition fails, the relay immediately shuts down the machine in a safety-related manner . This ensures compliance with safety standards such as EN ISO 13849-1 and SIL/PL ratings .

Applications...

Article Content

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Optical safety devices

Optical safety devices Optical safety devices detect a presence in their protected field and don't require any action from the machine

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Safety Light Curtains

Safety light curtains are an advanced method of safeguarding personnel around hazardous machines through the use

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Light curtain

A light curtain is a safety device that detects when a beam of infrared light has been broken by a person passing through an area.

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deTec, 8015526

ALL ALONG THE LINE Whether in mechanical or automotive engineering, intralogistics or the packaging industry: with deTec, SICK

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How a Safety Light Curtain Works — Interactive Lab

Learn the housing, active face, mounting, and connector before you meet it on a machine. Use the silhouette, active face, and

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Safety Light Curtains: Working Principles and Benefits | Blog

Safety light curtains have emerged as a revolutionary technology that effectively protects employees and prevents

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Light Barrier (Safety Light Curtain): Working Principle, Types ...

A safety light curtain (light barrier) is a photoelectric protective device that creates an invisible curtain of infrared beams

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SICK | Sensor Intelligence

Explore SICK's safety light curtains designed for efficient, reliable access protection and advanced sensor intelligence technology.

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Monitoring Functions of Light Curtains | DigiKey

A look at light curtain specifications and performance standards, application examples of how light curtains are used,

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Light Curtain

What is a Light Curtain? A light curtain (also known as a Safety light curtain) is a non-contact Safety device that

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Light Curtains | Safety Light Barriers | RS

Safety light curtains are also known as safety light barriers or safety light screens. These optoelectronic

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Light curtain controllers

The light barrier switching devices are used to protect persons that regularly during the handling process must reach into machines

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Light Curtain Controllers Selection Guide: Types, Features ...

Light curtain controllers send stop signals to machines that are guarded by light curtains, photoelectric transmitters that project an

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Light curtains | Leuze

Switching light curtains are perfect for monitoring large measurement fields. They react as soon as anything or anyone penetrates

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OPERATING INSTRUCTIONS deTec4

When one or more light beams are completely interrupted, the safety light curtain reports the interruption in the light path to the

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Safety Light Curtain Basics

Introduction The Safety Light Curtain is relied on to protect the safety of factory personnel all over the world. Yet,

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Sequential Muting of a Light Curtain

Muting is the intentional suppression of the protective function of light curtains – the light curtain is “muted” temporarily. For this

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Safety light curtains

Safety light curtains A safety light curtain is a safety device that uses light beams to create a virtual barrier around a hazard and

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Safety Light Curtain

Equipped with Full Length Indicator Lights, Shadow Feature, and Built-In Alignment, the GL-V gives clear

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What exactly is a safety light curtain?

The safety light curtain is relied on to protect the safety of factory personnel all over the world. Yet, although the

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Safety Light Curtains

These devices meet the highest safety standards of Type4, SIL3, Category4, and PLe. Integration is efficient and easy with the

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Simple Machine Safety (E-stop, Door Switch, Light Curtain)

This building block is designed to work in safety applications with at least one E-stop button, one door switch and one light curtain.

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Safety Light Curtain Working Principle: Complete Industrial Guide

Learn how a safety light curtain works, including its working principle, components, PLC integration, types, and

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Tutorial: How to Set Up a Light Curtain

Learn how to align and configure the parameters of a light curtain using a send/receive pair of SICK deTec4 light beam

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Cascading E-Stop and Light Curtain Safety Relays

The light curtain safety relay would be wired for automatic reset, but then the E-stop relay would control the main

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Light Curtains

In the world of industrial automation, where safety and efficiency are paramount, light curtains play a crucial role in

Contact Us

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