⏷ReeR

Your future's safe!

TYPE 2 & 4 LIGHT CURTAINS | WATERTIGHT & EXPLOSION-PROOF LIGHT CURTAINS | MEASUREMENT & AUTOMATION LIGHT CURTAINS | CONTROLLERS | INTERFACES | RELAYS | MAGNETIC & RFID SWITCHES | FAIL-SAFE PROXIMITY INDUCTIVE SENSORS | TYPE 2 PHOTOCELLS | ENCODERS

Safety devices and solutions
for the Machine Automation industry

superior performance & reliability

HELPING OEMS SPECIFY THE RIGHT SAFETY SOLUTION FOR A WIDE RANGE OF INDUSTRIAL APPLICATIONS

North American Operations

ReeR safety light curtains, controllers, interfaces, relays, and switches have delivered superior performance and reliability since 1959. These world-class safety products are now available to North American machine builders with the added benefits of US-based customer support and dedicated inventory. ReeR's experts are easily accessible to help OEMs specify the right safety solution for a wide range of industrial applications.

A History of Leadership

ReeR was established in 1959 to distribute components for the industrial, lighting, and home automation markets.

By the mid-1970's, ReeR developed its first safety sensors, which were followed by the company's first light curtains.

Today, ReeR is the leading Italian producer and a premier global manufacturer of optoelectronic sensors for industrial safety.

ReeR Safety's international success reflects the expertise and innovation the division delivers through its distributor network, which provides outstanding customer support in more than 60 countries.

Commitment to Quality

ReeR is committed to continually improving its quality management processes, ensuring high product reliability, and minimizing returns.

ReeR proprietary management software ensures product traceability and production process control.

ReeR product quality is guaranteed by the Quality System certified by TÜV Italia according to the ISO 9001:2008 standard.

A Passion for Innovation

The spirit of ReeR is embodied in technological excellence and application expertise.

More than 15% of ReeR employees work in Research and Development, with a focus on safety hardware, software, and firmware.

Furthermore, ReeR is a primary contributor to the development of the standardization process in the most influential national and international machine safety Organizing Committees.

"ReeR Safety has been an excellent partner for Modula. The Vertical Lift Modules that we manufacture are technologically advanced Inventory Management Products with best-in-class quality levels, and a reputation for reliability in many different industries. We have found ReeR Safety to represent these same characteristics – high quality, reliable, and innovative. Because of this, we also believe that we are able to provide our customers with solutions that are fast and efficient but also extremely safe to operate; especially within the high performance demands of Industry 4.0 environments."

Antonio Pagano, Chief Executive Officer, Modula, Inc.

Safety in Automation and Beyond

Safety is important in every workplace, but in highly automated environments it is critical. ReeR has built upon a strong foundation in the field of optoelectronic curtains for automation, measurement, and control. Thanks to collaboration and partnership with the world's leading machine safety, automotive, packaging, and palletization companies, ReeR is now able to offer safety devices to meet a wider range of applications, including light curtains, programmable controllers, photocells, and interfaces.

Applications

- Automation Assembly Equipment
- Detection in Public Access Areas
- Car Lifts and Automated Parking
- Robots & Robotic Work Cells
- Vertical Automatic Storage
- Protection of Palletizers
- Injection Molding Machines
- Wood Working Machines
- Welding
- Packaging

**More than 60 Years
of Quality and Innovation**
Watch the video!

Safety Solutions for Machine Automation

Safety Light Curtains and Safety Light Grids

ReeR manufactures a variety of safety light curtains and access control barriers to solve a wide range of industrial safety applications. We offer Type 2 and 4 versions with competitive performance and innovative features.

Type 4 Compact Safety Light Curtains and Safety Light Grids

EOS

Features

- Safety Light Curtains for Finger, Hand and Body Detection with 14, 20, 30, 40, 50 and 90 mm resolution
- Safety Light Grids for Access Control with 2, 3 or 4 beams (multi-beam)
- Standard versions with automatic restart
- Integrated function versions with selectable automatic/manual restart and EDM (External Device Monitoring)
- Master/Slave models for cascade connections of 2 or 3 light curtains
- Hardware configuration: no programming necessary, easy to install and replace
- High Vibration models: special models resistant to high vibrations for applications i.e. in the textile industry. These models can maintain the alignment of the beams also the presence of strong mechanical stresses and vibrations
- Also available as Type 2

Characteristics

- Minimal cross section: 28 x 30 mm
- Operating range up to 20 m, protected height up to 2.2 m
- No blind area on one side. The position of first beam ensures that the sensitive area extends to end of the light curtain. The protected area extends until the light curtain end maintaining the resolution
- -30 to +55° C operating temperature: ideal also in cold storage facilities
- Start-up time: ≤ 2 sec
- IP65 and IP67
- M12 connectors: cables easy to source and install, no shielded cables needed

Go to our EOS webpage

Watch a product video

Access Control Safety Light Curtains

The new Safegate Type 4 range of access control barriers is the ideal solution for the protection of a vast number of high-risk industrial applications, in particular those requiring a high level of integration of the Muting functions. Safegate guarantees the perfect integration of all Muting sensors that can be directly connected to the access control barrier.

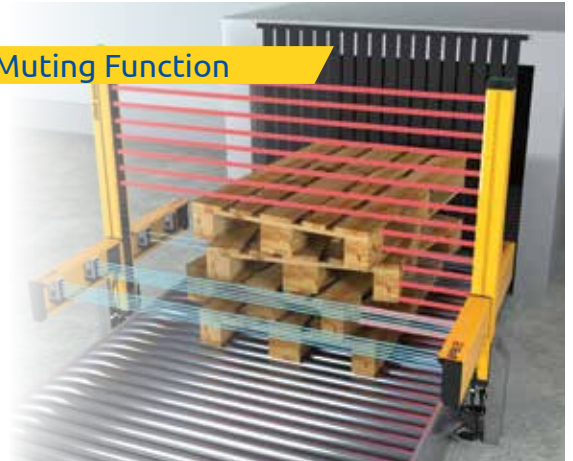## Type 4 Access Control Safety Light Curtains with Integrated Muting Function
SAFEGATE

Features

- Integrated Status and Muting lamp
- Integration of the main safety functions, including self-testing of solid-state outputs, external device monitoring (EDM) and Start/Restart interlock function
- 14 mm resolution for Finger detection. 30 and 40 mm resolution for Hand detection. 2, 3, 4 multi-beams for Access Control
- 3 pre-configured Muting logics - Exit-only (parallel/crossed beams), Entry-Exit (parallel beams), Entry-Exit (crossed beams)
- Programmable models, allow the configuration of all Muting logics and additional functional parameters via the SCS software provided, including the Partial Muting function
- Fully scalable: change configuration at any time
- Flexible configuration Hardware or Software configuration to cover all Muting applications
- Pre-configured and pre-wired Muting arms and brackets
- New M5 multi-beam Muting photocell, ideal for sensing unconventional objects
- Optional connection box allowing a quick and reliable connection of the Safegate light curtains providing all major operating controls like Restart and Override in the guarded area
- Special versions of Muting arms and brackets for transparent objects applications (i.e. glass) and high-speed conveyors

Characteristics

- Cross section: 55 x 50 mm
- Operating range up to 20 m, protected height up to 2.2 m
- Special version with range up to 80 m (without Muting functions)
- Transceiver versions available, with passive retro-reflective elements
- -30 to +55° C operating temperature: ideal also in cold storage facilities
- IP65 and IP67

Go to our Safegate webpage

Watch a product video

Safety Light Curtains with Integrated Blanking Functions and for Long-Range Applications

Type 4 Safety Light Curtains

ADMIRAL WITH BLANKING FUNCTIONS

Finger, hand, body detection and multibeam for access control

Built-in floating blanking function with 5 configuration options. Floating Blanking allows the detected object to move freely inside the light curtain's protected field, under the condition that the intercepted beams are adjacent and that their number is not higher than the configured one.
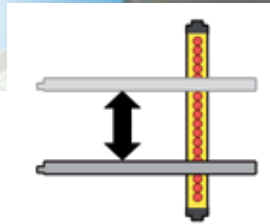
The ideal light curtain for protecting press brakes, automatic machines, and robotised areas, where the material being processed or moving parts of the machine cross the field protected by the light curtain.

- Safety Light Curtains for Finger, Hand and Body Detection with 14, 20, 40 and 90 mm resolution
- Operating range up to 18 m, protected height up to 2.2 m
- Master/Slave models for cascade connections of 2 light curtains
- Hardware configuration. No programming necessary
- IP65
- Muting functions with additional muting arms

ADMIRAL LONG RANGE AND LONG-RANGE DUAL-BEAM

Admiral Long-Range including a special version featuring an innovative Dual-Beam System. Ideal for outdoor applications as it decreases the sensitivity of the light curtain from small objects that could accidentally interrupt the beams, i.e. birds or leaves but also heavy rain or snow.

- Integration of the main safety functions, including self-testing of solid-state outputs, external device monitoring (EDM) and Start/Restart interlock function
- 2, 3, 4 multi-beams for Access Control
- Range up to 80 meters
- Hardware configuration. No programming necessary
- IP65

Go to our Admiral webpage

Watertight Safety Light Curtains

The watertight, food-grade, IP69K certified enclosures allow light curtains and light grids to be used in a harsh working environment with exposure to water and steam.

Applications

- Washing systems
- Food and beverage industry applications
- Outdoor long range perimeter protection
- Any application that requires a wash down procedure or constant exposure to high pressure water and steam

Type 4 Watertight Safety Light Curtains

WATERTIGHT EOS4

Type 4 Watertight Safety Light Curtains. The same features and characteristics of the popular EOS range with the addition of a Watertight IP69K Ecolab certified enclosure.

- Products protected by watertight cases can resist water jets under pressure according to IP69K standards
- Heated versions with a thermostatically controlled heating system and can work down to -25°C preventing the formation of condensation inside the enclosure
- Food graded: the use of inert and non-toxic components allows WTF and WTHF enclosures to be used in the Food & Beverage industry, where frequent washdown procedures are required
- Safety Light Curtains for Finger and Hand Detection with 14 and 30 mm resolution
- Safety Light Grids for Access Control with 2, 3 or 4 beams (multi-beam)
- Operating range up to 17 m, protected height up to 1.8 m

WATERTIGHT ADMIRAL LONG-RANGE AND LONG-RANGE DUAL-BEAM

- IP67 watertight enclosure allowing the light curtains to be used in harsh working environments with exposure to water and steam
- Safety Light Grids for Access Control with 2, 3 or 4 beams (multi-beam)
- Heated versions available
- Operating range up to 60 m, protected height up to 1.2 m

Go to our Water-Tight Safety Light Curtains webpage

The small EOS WTF and WTHF cylindrical enclosure (only 56 mm diameter) is IP69K protection-rate tested and can withstand up to 80 bar of water jets pressure at the temperature of +80 °C. Enclosure incorporates a valve to drain humidity and to avoid condensation.

Material resistance test according to cleaning procedures for food and beverage industry. Test procedure: Ecolab-test F&E Nr. 40-1.
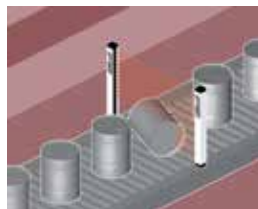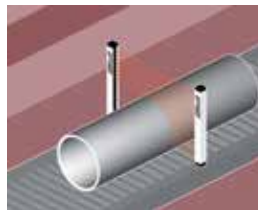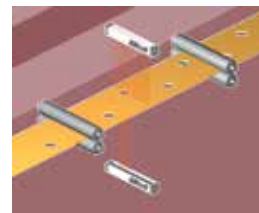
Measurement and Automation Light Curtains

Light curtains for industrial and civil applications where it is necessary to detect, measure, and recognize objects. Depending on the number and position of the beams engaged by an object, Micron can provide real time information to a PLC or PC in order to: detect the presence or absence of objects, perform a count, detect a position, detect a shape or a profile, measure dimensions.

Detect, Measure and Recognize Objects

Micron

- Controlled heights: 150 ... 3000 mm
- Beam spacing: 5, 10, 25, 30, 50, 75 mm
- Max. range:
  - 2,5 m: 5 mm beam spacing models
  - 10 m: 10, 30 mm beam spacing models
  - 18 m: 25, 50, 75 mm beam spacing models
- Scan cycles: 1, 2, 3 (selectable)
- Synchronization between emitter and receiver: optical or via cable (selectable)
- Status display for operating status monitoring and light curtain self-diagnosis
- Power supply: 24 VDC +/-20%
- Operating temperature: -10 ... +55° C
- Protection rating: IP65 and IP67
- Cross-section dimensions: 28 x 30 mm

Go to our Micron webpage

Watch a product video

Micron A – Two models, ideal for object measurement and detection of dimensional limits.

- Equipped with two analog outputs (0/10 VDC) with programmable functions and two programmable digital outputs - Models MI AV
- Equipped with two analog outputs (4/20 mA) with programmable functions and two programmable digital outputs - Models MI AC

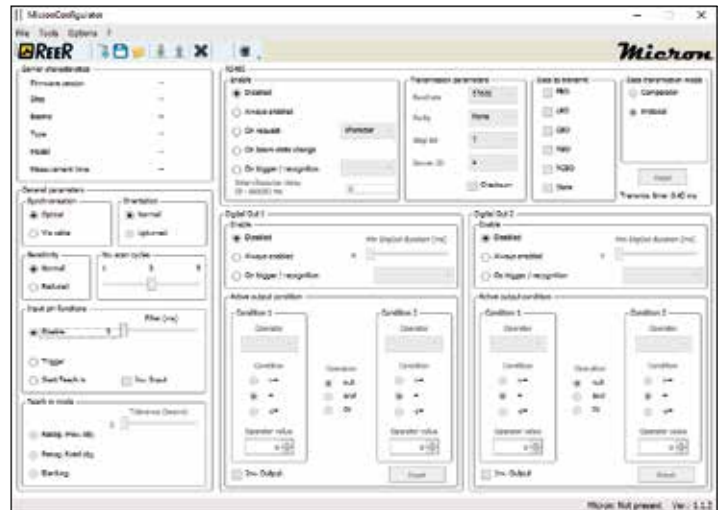**Micron B** – Ideal for dimensional measurement, detection of object profile and position.

- Equipped with an RS 485 serial interface with programmable functions and two programmable digital outputs - Models MI B

Micron C – Ideal for piece counting and detection of object presence/absence in the controlled field.

- Equipped with two antivalent solid state outputs - Models MI C

Micron IOL – Ideal for dimensional measurement, detection of object profile and position

- Equipped with outputs with IO-Link protocol - Models MI IOL

MicronConfigurator software for PC, with graphic user interface, is supplied with each light curtain (models A and B only). Models A and B are provided with an M5 4-pole connector for parameter configuration and monitoring of the light curtain. Micron IOL configuration via the IO-Link Master.

WTF and WTHF models available

Watertight enclosures allow light curtains and light grids to be used in harsh working environments with exposure to water and steam. The use of inert and non-toxic components allows WTF and WTHF enclosures to be used in the Food & Beverage industry, where frequent washdown procedures are required. IP69K certified, Ecolab food graded.

Safety Integrated Controllers

Our configurable safety controllers are engineered for protecting machines or plants and can monitor several safety sensors and commands, such as safety light curtains, laser scanners, photocells, mechanical switches, mats, emergency stops, two-hand controls, concentrating management of these in a single, flexible device.

Modular Safety Integrated Controller

MOSAIC

Mosaic is a safety hub able to manage all safety functions of machinery. Configurable and scalable, it provides cost reductions and minimal wiring. Compared to "traditional" electromechanical relay-based safety circuits, Mosaic has the following advantages:

- Reduces the number of devices and wiring used to minimize the overall size of the project
- Accelerating control panel construction
- Providing logic configurations via a quick and easy-to-use software. Machine designers are always able to change the configuration logic
- Mosaic M1, Mosaic M1S and Mosaic M1S COM Master Units are configurable via the MSD (Mosaic Safety Designer) graphic interface (provided with each master unit at no additional cost)
- Adding or removing safety function blocks at any stage of the machine design process
- Ability to check the logic configuration of the application at any point from the design phase through design and installation using the simulation and real-time monitor functionality
- Remote connection to the safety system (Mosaic M1S COM only)

Expansion cards includes:

- Additional I/O cards
- Safety Relays outputs
- Speed Monitoring
- Analogue inputs
- Field-Bus Communication

Go to our Mosaic webpage

Watch a product video

Stand-Alone Safety Integrated Controller

MZERO

The same functional characteristics of the Mosaic range in a Stand-Alone safety controller. Ideal for applications in smaller machineries where a limited number of I/Os is required.

Go to our MZero webpage

Software for Safety Integrated Controllers

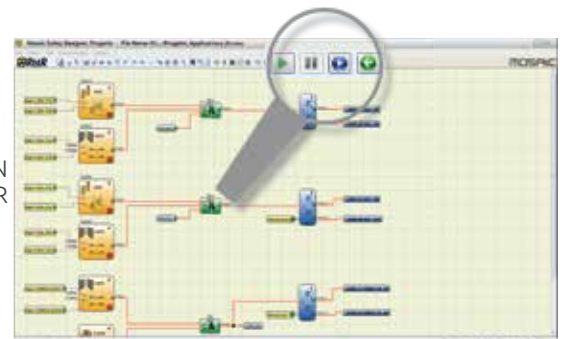### MOSAIC AND MZERO
SAFETY DESIGNER

Easy-to-use designer software included with Mosaic M1, Mosaic M1S, Mosaic M1S COM and MZERO Master Units. Drag & Drop functionality allows to easily create all logic scenarios in a machine directive compliant environment.

- Drag & Drop
- User-friendly
- Real-time monitor
- Design validation
- Simulation
- Security password
- Reports and log files
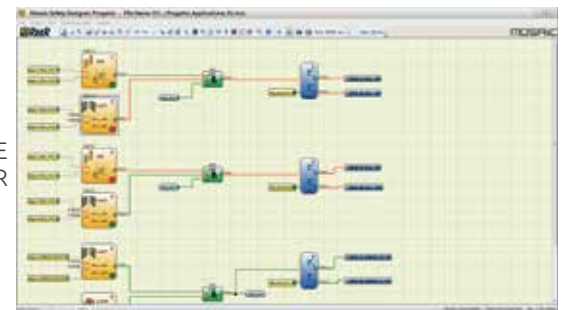- Project information

You can download the MSD and MZD software at www.reersafety.com/download

MOSAIC SAFETY DESIGNER

MZERO SAFETY DESIGNER

BUILT-IN SIMULATOR

REAL-TIME MONITOR

FIELD-BUS PARAMETERS CONFIGURATION
(Mosaic M1S COM only)

Safety Interfaces and Relays

Modules for Safety Light Curtains and OSSD Output Devices, Two-Hand Controls, E-Stops, Safety Photocells and Speed Monitoring

The safety interface is a dedicated module between the safety device and the machinery, providing safety relay outputs and additional functionality (i.e. restart, EDM, etc.) according to the safety standards, machine, or plant.

Multi-Function Safety Interfaces

SR SELECT

The new SR Select allows four different operating modes offering the possibility to connect and control different types of safety devices, including Safety Light Curtains, Solid-State-Output Devices (i.e. RFID safety switches), Dual-Channel Emergency Stops, Two-Hand Controls and Type 2 Safety Photocells.

- 9 operating modes selectable via the Rotary Switch
- Manual or automatic restart
- 2 NO outputs with guided contact safety relays

Stand-Alone Safety Interfaces

AD SR1

Type 4 interface for OSSD output devices, i.e. safety light curtains and RFID safety switches (2 NO)

AD SRE3 - AD SRE3C

PL d safety interfaces for emergency stop buttons and safety switches (2 NO)

AD SRE4 - AD SRE4C

PL e safety interfaces for emergency stop buttons and safety switches (3 NO + 1 NC)

AD SRM

Type 4 safety interface with integrated Muting (2 NO)

AD SRT

PL e Safety interface for two-hand control (2 NO + 1 NC)

AU SX - AU SXM

Type 2 control unit for Ilion and Ulisse photocells (2 NO) and optional (SXM) integrated Muting function

Safety Relays

AD SR0 - AD SR0A

Safety relay module for devices with integrated feedback input for EDM (2 NO + 1 NC)

Speed-Monitoring Interfaces

SV MR0 - SV MR0 U

PL e / SIL 3 safety speed monitoring interfaces (2 NO)

Applications

- Pallet production machines
- Wood-working machinery
- Painting machines for wood-working industry
- Palletizing systems
- Handling machines for wood-working plants
- Wood-working machines squaring edgebanders
- Robotics
- Plastic film production machines
- AGV (Automatic Guided Vehicle)

Go to our Safety
Interfaces & Relays
webpage

RFID and Magnetic Safety Contactless Switches

The application of Magnus contactless switches range can be extremely wide thanks to the compact and versatile design. The different design and technology options and the complete mechanical compatibility within the series make these products extremely valuable for users. The RFID technology enables Magnus RFID switches to be individually coded in three different ways to allow the appropriate tampering protection in all applications. The highest configurations allow each sensor to be paired with one only assigned actuator. The RFID technology used allows to reach safety levels up to PL e / SIL 3 also when connecting the sensors in series.

RFID Safety Switches

MAGNUS RFID

Next generation switches for machine safety

- Rectangular shape with 22 or 78 mm interaxis
- Wear-free technology allows for longer lifetime
- Status LED and diagnostic output
- Smallest design of RFID safety sensors
- Multiple options of actuation technology
- Series connection up to PL e/SIL 3
- 3 different coding levels: Individual, Unique and Actuator coded
- 2 OSSDs outputs
- IP67 and IP6K9K protection grade for use in harsh environments
- With 5 m lead Cable or M12 Connector pigtail

Go to our Magnus
RFID webpage

Magnetic Safety Switches

MAGNUS MG

A cost-effective option for movable parts protection

- Rectangular shape with 22 or 78 mm interaxis
- Cylindrical shape with 30 mm diameter
- Coded magnetic operation – Tamper resistant
- Sensor with 4 wires: 2 NO contacts
- IP67 protection grade

Go to our Magnus
MG webpage

Fail-Safe Proximity Inductive Sensors

PI-Safe can generally be installed in all those applications that require a non-contact and safe detection of a metal object. Wear-free operation guarantees low maintenance costs. Faults such as coil break or coil short circuit are diagnosed switching the sensor into the defined safe state. Even a cross fault between the supply voltage and one of the two outputs does not affect the safety function of the sensor. PI-Safe safety sensors increase the overall uptime and safety of the application.

Fail-Safe Inductive Sensors

PI-SAFE

A complete range of fail-safe inductive sensors for position detection

- Certification to EN 60947-5-3 for electromechanical control gear
- Ensuring operator and machine safety
- No special actuator for electronic fail-safe sensors required
- Connection to safety interface, safety controller or safety PLC (i.e. AD SR1, Mosaic)
- 2 OSSDs outputs
- Operating temperature: -25 ... +70 °C
- IP65 and IP67 protection rating, IP69K (specific models only)

Typical applications include reliable positioning on rotary indexing tables and machine tools, safe triggering of slow travel or switching off in end positions for presses gantry robots and actuators.

Go to our PI-Safe webpage

Type 2 Safety Photocells

Compact size single-beam safety photocells, allow to provide safety detection in very small spaces and in all those applications where position flexibility is required. The photocells must be connected to a control unit (AU SX, AU SXM, Mosaic or MZERO) and can be installed to form a protection system composed by 1, 2, 3 or 4 single beam photocells.

Type 2 Safety Photocells

ILION

Ilion is a Type 2 safety photocell with M18 cylindrical metal body. The compact size of the photocells allow installation into very small spaces, while the possibility to use more photocells provides the maximum flexibility in positioning of the beams.

- Operating temperature: 0 ... +55 °C
- IP67 protection rating

ULISSE

Ulisse is a Type 2 safety photocell with metal body. Thanks to the very small size, the anodized aluminum case and the glass lenses free from electrostatic dust attraction, Ulisse is the ideal solution for the protection of weaving machines as well as of other applications characterized by high levels of mechanical stress or very restricted spaces.

- Operating temperature: 0 ... +55 °C
- IP67 protection rating

Go to our Safety
Photocell webpage

Safety Encoders

Shaft or Hollow Shaft Safety Encoders

Safety Sin/Cos incremental encoders. Can be connected to the Speed Monitoring Expansion Cards of the Mosaic system to form a SIL 3 certified safety system for speed monitoring.

Safety Encoders

SAFECODER

- Sin/Cos incremental encoder
- Safety level: up to SIL3
- Available in two models: Shaft or Hollow Shaft
- Protection rate housing and flange side IP67, shaft IP65 (optional IP67)
- Immunity to interference: Shock and vibration resistant. Insensitive to strong magnetic fields
- Features a robust and reliable housing and the ability to handle high mechanical loads

Applications

- Any applications requiring speed monitoring of a rotating axis

Go to our Safety Encoders webpage

Safety Interlock Switches

Safety Switch with Guard Locking and Electromagnetic Lock

Safelock is a safety switch utilized in the protection of personnel when opening doors leading to dangerous areas. It acts by monitoring and interrupting the safety circuit during dangerous scenarios. The solenoid locks and unlocks access to the dangerous area, guaranteeing safety until the danger has stopped.

Safety Interlock Switches

SAFELOCK SLK-M

Retention mechanism actuated by a spring and unlocked by ON current.

SAFELOCK SLK-E

Retention mechanism actuated by ON current and unlocked by spring.

Characteristics

- Switching principle based on Slow-action switching contacts
- 2 guided contacts, positively driven, to define the door position
- 1 guided contact, positively driven, to define the guard lock block position

Applications

- Beam drilling and sawing machines
- Panel sizing saws
- Vertical lift storage system
- Rail dependent storage and retrieval equipment
- Industrial boilers
- Industrial thermal processes
- Robotics
- Palletizing systems
- Handling machines for wood-working plants

Go to our Safety Interlock Switches webpage

Accessories

- Floor mounting columns
- Columns with deflecting mirrors

- Swivel brackets for unconventional mounting
- Vibration dampers for high-vibration applications
- Different length standard cables and shielded cables
- Laser alignment devices

Typical Applications

We have a unique experience with worldwide leaders in the machinery field, especially in the following applications:

- Palletizing
- Food & Beverage
- Robotics
- CNC centers (wood, glass and stone and marble working)
- Presses
- Metalworking
- Ceramics
- Automotive
- Textile...
- ...and wherever machine protection is needed!

ReeR *Customer Service*

We Always Put Our Customers First

ReeR After Sales service is committed to support all customers that need technical guidance regarding functionality, handling and installation of our products

Customer Service Hotline
1-513-848-ReeR (7337)

or contact
support@reersafety.com

For product returns please visit www.reersafety.com for further information

ReeR

Your future's safe!

More than 60 years of quality and innovation

Founded in Turin (Italy) in 1959, ReeR distinguished itself for its strong commitment to innovation and technology.

A steady growth throughout the years allowed ReeR to become a point of reference in the safety automation industry at a worldwide level.

The Safety Division is in fact today a world leader in the development and manufacturing of safety optoelectronic sensors and controllers.

ReeR is ISO 9001, ISO 14001 and ISO 45001 certified.

Made in Italy
since 1959

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