Tapeswitch®

Celebrating Over 50 Years of Excellence
50
Est. 1957
Safety, Sensing and Signaling

A full spectrum of sensing and signaling products for protection, detection, and safety
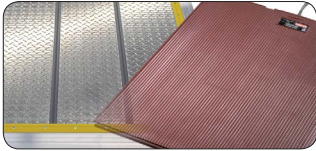
SWITCH PRODUCTS

SAFETY & SIGNAL MATS

SENSING EDGES

SENSING BUMPERS

SAFETY INTERFACE MODULES

LIGHT CURTAINS & LASER SCANNER

CUSTOM DESIGNS

SAFETY INTERLOCKS

CONTENTS

Tapeswitch®

Since Tapeswitch invented **Ribbon Switch** technology more than fifty years ago, we have incorporated this technology in thousands of standard and custom switching, sensing, and signaling applications. Below are examples of our most popular designs.

Controflex™ Ribbon Switches – Press-at-any-point actuation in any length.

Normally-open, momentary-contact switches for sensing, control, and other low-voltage applications. The essence of simplicity and reliability, they are suitable for applications ranging from general purpose switching to protection of personnel from safety hazards. Available to meet a wide range of environmental and sensitivity requirements, ribbon switches are manufactured per customer requirements and are also available in bulk.

NexGen™ Switches – Rugged, enclosed, impact-resistant switches.

Designed for situations where switch size, visibility, and ease of operation are important, or where switch damage through abuse or vandalism is a concern. Typical applications include passenger signaling, machine emergency stop. Some custom features include different colored inserts and custom text. NexGen™ switches meet ADA requirements.

Touchpads – Stock sizes available in 2 x 2 inches, 4 x 4 inches, and $3^{5/8}$ x $7^{1/2}$ inches.

Normally-open, press-to-activate switches that are water resistant and easily mountable using a frame or adhesive. Custom touchpads are available in limited colors and with or without logos, text, or graphics available upon request. Suitable for handicap passenger signaling, door operation, ADA applications or anywhere a large switch is required.

Sensing Cells – Low-profile, sealed sensing switches in "wafer" form.

They are surface mounted and typically used under objects to detect removal.

PASS - Panic Alarm Signaling Switch for Emergency Response.

The Panic Alarm Signaling System and Illuminated Panic Alarm Signaling System for increased visibility integrates with existing alarms. This emergency signal system is the perfect solution for police station interrogation rooms, residential care homes, hospitals, public transportation, education, manufacturing, and emergency vehicles or anywhere people may need to signal for help or assistance.

Remote Switches - Tactile and Non-Tactile remote switches.

Tactical remote switches are used to activate tactical lights and lasers. Remote switches are available in single dome, dual dome, and non-tactile. Switches are manufactured with a polyurethane jacket with options such as custom sizes and shapes, coil cord, straight cord and can be custom engineered with connectors.
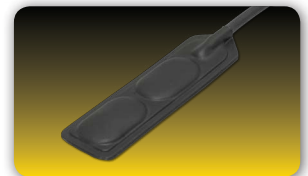
Car Wash Mat – For vehicle counting and car wash applications.

Used for process control or vehicle counting, these switches are extremely rugged and long lasting. They are sealed for weather and water resistance. Available in a rigid model, ramped for surface mounting and square-edged for flush mounting.
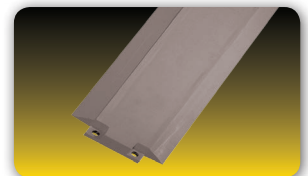
Tapeswitch offers the widest range of safety mat products in the industry. We are also the leader in **Custom Mats** and **Mat Systems** and can supply nearly any size or shape, including mats with multiple zones, custom angles, curves, lead locations, edging, and cutouts.

Safety Mats (Fail-Safe Wiring)

ControlMat™ Industrial-Duty Safety Mats – Heavy-duty and abrasion-resistant.

For personnel sensing around dangerous machinery and in hazardous locations.

ArmorMat™ Impact-Resistant Safety Mats – Extra-heavy duty and highly puncture-resistant.

Incorporates an impact and penetration resistant barrier that easily withstands abuse that would destroy ordinary pressure-sensitive mats.

Diamond Plate Aluminum Safety Mats – Super heavy-duty and nearly indestructible.

Designed for personnel or vehicle detection. Withstands forklift traffic, steel wheel carts, pallet loaders and similar equipment, and survives welding debris, hot parts, metal chips, and foundry spatter.
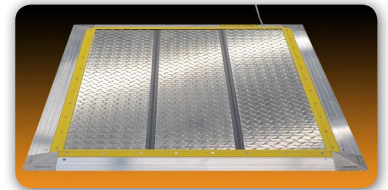
Safety Zone Sensing Mats – Molded construction, parallel plate design.

Molded, seamless construction provides exceptional resistance to moisture intrusion. Choice of ribbed, eurodot, or smooth surface. Form, fit, and function replacements available for most brands of molded mats. Can be manufactured with limited colors or logo.

MSP Inter-Connected System - Molded construction, parallel plate design.

MSP Inter-Connecting Plug-In Safety Zone Mat System has the same functionaity and features of the molded Safety Zone mat construction, The MSP has built-in connectors, allowing for multiple mats to be inter-connected in tandem in a Category 3 Safety System (depending on applied safety controller).
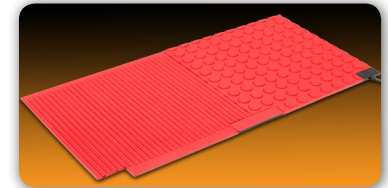
Non-safety Signaling Mats

CVP Sensing Mats – Commercial-duty signaling mat, economical design.

CVP Sensing Mats are designed for commercial control, signaling, and counting applications. They feature minimum thickness, maximum durability and low cost.

**Matex® Treadle Switch Mats** – For trains, buses, and other public transit.

Used for door or gate operation, escalator control, and customer counting. Custom designed for each application.

Wheelchair Lift Sensing Mats – For wheelchair lifts on buses and vans.

Detects presence of wheelchair or scooter on bus- or van-mounted lift. Designed to provide an exact fit for each application.
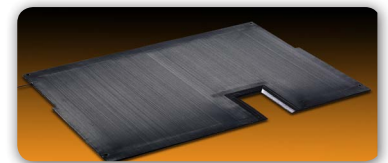
Tapeswitch®

Tapeswitch **Sensing Edges** can be used to protect personnel from injury, to protect equipment from damage, or simply to signal contact between two objects. They are available in a wide range of size, sensitivity, and overtravel choices as well as in curved and circular models.

TS-16 & TS-6 Mini-Sensing Edges – Low profile with high sensitivity, end caps available.

Immediate actuation, no overtravel (TS-6).
Immediate actuation, 1/4 in. of overtravel (TS-16).
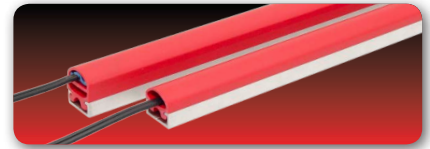
TS-18 & TS-8 Mini-Sensing Edges – Low profile, end caps available.

Immediate actuation, no overtravel (TS-8).
Immediate actuation, 1/4 inch of overtravel (TS-18).
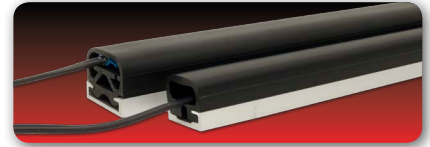
TS-26 Sensing Edge – Low profile, end caps available.

Compliance before actuation, 3/8 inch of overtravel.
Offers side and top actuation

TS-46 Sensing Edge – Medium profile, medium sensitivity.

Compliance before actuation, 3/4 inch of overtravel, crimp-on mounting channel.
Offers side and top actuation

TS-48 Sensing Edge – Medium profile, medium sensitivity.

Same specifications as TS-46, except with a snap-in mounting channel.

TS-47 & TS-57 – High sensitivity, no compliance for fastest activation.

Substantial overtravel for maximum cushioning.

TS-67 Omni-Directional Sensing Edge – High sensitivity from any direction.

Immediate actuation, 1 inch of overtravel.

TS-108 & TS-109 – Self-mounting, side activation, 50% overtravel.

For residential and commercial applications.

Tapeswitch **Sensing Bumpers** provide a large, compliant surface that protects both personnel and equipment by detecting contact or impact before damage is done. Usually customized, they are available in various sensitivities, profiles, colors, and lengths. Internal switching elements are UL and cUL recognized.

SE Series Sensing Bumpers – For general purpose, heavy-duty applications.

Sensitivity is 20 pounds nominal, with substantial overtravel cushioning. Exterior housing is EPDM rubber, which is resistant to water, oil, hydraulic fluid, and coolants. These bumpers feature easy bolt-on mounting with adjustable side bolt locations.
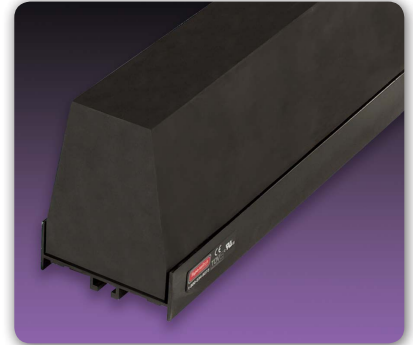
VBL Series High-Impact Sensing Bumper – For applications subject to repeated high impacts.

Designed to survive repeated severe impacts that can destroy a conventional bumper. Provides uniform sensitivity over the entire bumper surface and requires no guide wires or adjustments. Suitable for use on AGVs, mobile platforms, traveling conveyors and other moving equipment and machinery.
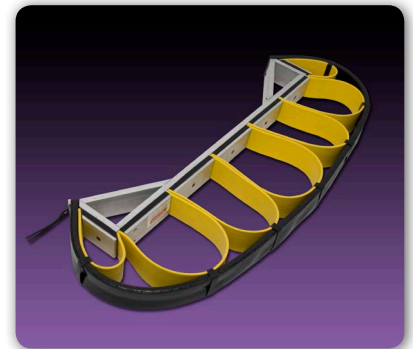
Hercules Ruggedized Sensing Bumper – For hostile environments that are off-limits to conventional bumpers.

Originally designed for marine spray environments. Encapsulated in a rugged polyurethane shell that meets MIL-STD-810E salt fog requirements. This bumper is abrasion-resistant, impact-resistant, and crush-resistant. It also stands up to many common industrial chemicals and fluids.

Custom Sensing Bumpers – Various sensitivities, profiles, colors, and lengths.

Designed to fit custom application needs. Extra-large sizes are available, as well as multiple-surface detection and multiple zones. Nylon-reinforced exterior resists water, oil, hydraulic fluid, and coolants. Mounting options include studs and threaded holes.
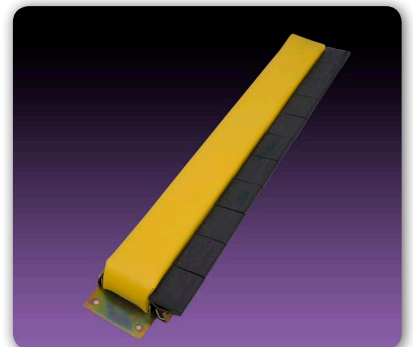
Tapeswitch®

Tapeswitch offers a wide variety of **Interface Controllers** that are compatible with our switches, mats, sensing edges, bumpers light curtains, and non-contact interlocks. These are available in a choice of mounting styles, voltage ranges, status indicators, and reset options. Select the one that best matches your specific application needs.

PCU/1 Control Unit - Programmable control unit.

This controller allows for the connection, control, and streamlining of multiple safety devices with programmable logic control functions, such as safety sensors and signals, light curtains, safety photocells, e-stops, safety mats, sensing edges, sensing bumpers, two-hand controls, magnetic or mechanical switches. Check website for Category and SIL safety level. The easy to use software allows for multiple functions and logic controls and has a configurable memory a list of input and output objects for a user friendly interface. It is USB capable for connection to the most common industrial Fieldbus systems for diagnostics and data communication. The stand alone controller has 8 input, 2 OSSD pairs, 4 test outputs, 2 digital signaling outputs, 2 inputs for restart, and 24 connectors, plus several different expansion units for additional inputs, outputs, and signaling and connectors plus additional safety relays.

PSSR/2 Control Unit - Fail-safe controller for end of the line resistor products.

The PSSR/2 safety interface controller offers Category 3, SIL2, PLd safety level performance and meets EN13849-1:2008. It is self monitoring and offers integrity monitoring of any 6.8 or 8.2 k ohm end of the line resistor product, such as switches, mats, and edges that incorprate a 6.8 or 8.2 k ohm resistor, making a complete safety system. It has guided relays and 2 normally open (safety) and 1 normally closed (monitor) contacts. It has a manual or auto reset function. It has a maximum sensor length of 330 feet It is 22.5 millimeter din rail mountable.

PRSU Control Units - Our most compact fail-safe module.

For high-risk automation and machine control applications. Compatible with all Tapeswitch sensing products, including switches, edges, bumpers, and mats. Conforms to EN 13849-1 safety performance level PLd, Catagory 3, and meets or exceeds the safety content of the applicable OSHA, ANSI, and RIA standards.

Available in a DIN rail-mounted package, with two power options. PRSU/4 operates on 24 VDC or VAC supply, PRSU/5 operates on 115 VAC supply. Both models feature manual and automatic reset capability.

MultiZone Controller - Custom designs for custom controls.

Acts as an interface between various Tapeswitch sensing devices and a machine or process control. Designed to monitor up to 6 zones and provides power to all connected B-series Light Curtains emitters and receivers and monitors the output signals. Also interfaces with a variety of pressure sensitive, normally-open switches made by Tapeswitch, including ribbon switches, safety mats, sensing edges and bumpers.

PSSU Control Units - 6 fail-safe models in 3 package styles.

For automation and machine control applications. These controllers exceed the requirements of Category 3 of EN 954-1 and meet or exceed the safety content of the applicable OSHA, ANSI, and RIA standards.

Available in wall-mounted and DIN rail-mounted versions with voltage options of 110/240 VAC or 24 VDC operation. Auto or manual reset, depending on model.

LIGHT CURTAINS & LASER SCANNER

Tapeswitch **Light Curtains** conform to ANSI, RIA, CE, UL, and cUL requirements. They use an LED beam array to detect fingers, hands, arms, or torsos, and are suitable for the most dangerous machine guarding applications, as well as perimeter guarding and access control applications.

B-Series Safety Light Curtains – High risk applications.

Microprocessor-controlled units with beam-blanking capabilities and a flexible interface that is compatible with common safety relay units, controllers, and fail-safe PLCs. Meets EN 61496 type 4 design requirements.

The emitter and receiver pair, by themselves, constitute a complete light curtain system, providing two redundant solid state PNP outputs, which can be interfaced directly into compatible machine control circuits.

Laser Scanner – For full area coverage over a wide zone.

This compact, mini scanner provides full area coverage over a wide zone, easily set to a maximum of 2 meters and the warning zone to a maximum of 10 meters depending on the application. It is ideal for detecting when a person or object is entered a hazardous area, for detecting when a critical zone is accessed, and for switching between 16 patterns to accommodate for object detection and collision prevention. The scanner is easy to configure, use, and program with muting status, current operation status, and reference features. The scanner is capable of storing 16 pattern combinations of a protection zone and two warning zones.

B-Series Perimeter Guards – For safety and security applications.

Available with 2, 3, or 4 beams. Used to protect hazardous areas, such as automated work cells or to monitor access or traffic in secure locations. The difference between models is the beam spacing.

Perimeter guards use the same circuitry and provide the same high level Category 4 safety integrity as the B-Series light curtains, with an operating distance of 0.5 meters to 30 meters.

Master/Slave Safety Light Curtains – Two or more light curtains integrated into one.

Additional flexibility to facilitate guarding in more than one plane is provided, by the capability to connect slave units to a basic or multi-beam master system. The slave unit can be basic, or multi-beam, with any of the defined detection characteristics of 14 mm, 30 mm, or 70 mm. A maximum of two slave units can be connected to a master system. Master and slave units can be assembled up to a maximum of 144 beams.

Hard Guard Light Curtains – Enclosed protected light curtains.

Designed for harsh industrial environments or outdoor applications. Available in either a tough, transparent acrylic housing or a rugged aluminum enclosure. Protected against water (including wash down), dust, dirt, oil, and many solvents, it is ideal for heavy industrial applications, food processing, or outdoor safety and security applications.

Light Curtain Accessories – For all B-Series light curtains.

Light curtain accessories include emitter and receiver cables in various lengths, mounting brackets, floor stands, and mirror assemblies in various mm's, mesh safety barriers for extra protection between uncovered areas, a beam blanking function unit, and a laser alignment tool.

Tapeswitch®

In addition to standard switch products, we custom engineer certain features to build custom switch products and we manufacture complete safety switch systems and multiple switch product systems.

Custom Switches and Systems

In addition to standard Switch products, we custom manufacture features including two wire, four wire fail-safe, two wire fail-safe with resistor, diffrent sizes, shapes, air leak testing, mounting options, colors, as well as custom manufacturing of complete safety and sensing systems and multiple switch systems.
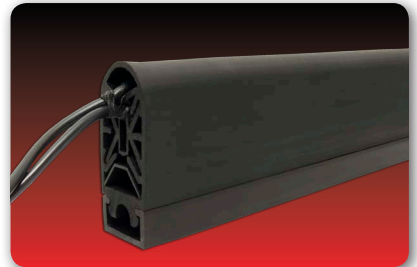
Custom Mats and Systems

In addition to standard Mat products, we custom manufacture features including two wire, four wire fail-safe, two wire fail-safe with resistor, sizes, shapes, cut-outs, large area coverage, lead locations, mounting options, edging, surface materials, multiple sensing zones, quick disconnects, as well as custom manufacturing of complete safety and sensing mat systems and multiple mat systems.
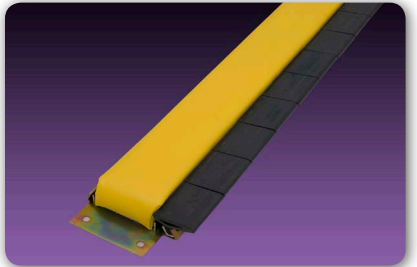
Custom Edges and Systems

In addition to standard Edge products, we custom manufacture features including two wire, four wire fail-safe, two wire fail-safe with resistor, lengths, lead locations, mounting channels, end caps, color, quick disconnect, as well as custom manufacturing of complete safety and sensing edge systems and multiple edge systems.

Custom Bumpers and Systems

In addition to standard bumper products, we custom manufacture features including two wire, four wire fail-safe, two wire fail-safe with resistor, sensitivities, profiles, colors, lengths, multiple sensing zones, corner designs, and as well as custom manufacturing of complete safety and sensing bumper systems and multiple bumper systems.

Custom Light Curtains and Systems

In addition to standard product, we custom manufacture features and accessories such as mounting brackets, floor stands, mirror assemblies, blanking units, laser alignment tools, cables, and specialized controllers for mutliple sensing zones and other functions, as well as custom manufactured enclosures and hard guarded light curtains, slant guards or more than one plane detection systems, and multiple light curtain systems.

Tapeswitch Corporation offers a complete product line of machine guarding non-contact safety switches, including magnetic safety switches, coded magnetic safety switches, standalone electronic safety switches and uniquely coded electronic safety switch systems with up to 500,000 codes.

F-SERIES Safety System - Electronic safety system

This uniquely flexible, DIN rail mounting, safety control unit is capable of monitoring up to 30 safety switches. The electronic non-contact safety switches are easy to install and tolerant to misalignment and guard wear. Together, they provide a system that can be used in harsh environments or where long term reliability is required. The F-SERIES safety system is approved to EN-954-1 Category 4 by TUV.

SSS Safety Switches - Standalone electronic safety switches

The SSS is a tamper-proof, standalone safety switch that can be used to switch relays, contactors, or safety relays directly. Only a Mechan actuator will operate the the SSS switch correctly. By removing the need for a separate control unit we have made it possible to use our top of the line electronic switching technology in a smaller, simpler safety system. With the SSS you get the reliability of Mechan electronic safety systems along with the ease of installation of a standard magnetic safety switch, like the MAGNASAFE.
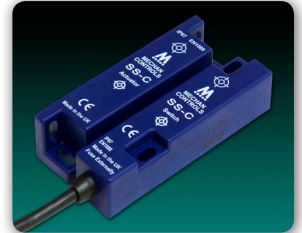
ISIS Safety System - Coded magnetic safety switch systems

The coded magnetic switches have a minimum 6 mm switching distance and an IP67 protection. With a simple 2-wire connection to the switches, the ISIS control unit can detect both open and short circuit faults when they occur, giving immediate indication and moving the control unit to a safe state. This eliminates the possibility of faults accumulating without being detected and improves safety. The ISIS-4 control unit monitors up to 4 ISIS safety switches and doubles as a safety relay saving cost and panel space. The ISIS-2 can monitor up to 2 switches or monitor up to 30 using the ISIS-E Extender modules. The ISIS safety system is approved to EN-954-1 Category 3 by TUV.

MAGNASAFE - Magnetic safety switches

MAGNASAFE is a complete range of non-contact magnetically operated switches for use in safety applications.

Constructed using special, heavy duty reed switches, encapsulated into ABS housings and protected with internal fuses, these switches can safely perform up to 1,000,000 operations at full load.

Non-contact switches are easy to fit and the 10 mm + switching distance ensures tolerance to misalignment and gate wear. They are ideal for wet, dusty, oily environments and in areas where hygiene is important.

HE Safety Switches - Coded magnetic safety switches

The HE Series switches are coded magnetic non-contact switches. They feature fuly encapsulated solid state, single point switching with built in, dual color, LED status indication. The switches offer a CAT 4, SIL 3 PLe safety performance level. It has 2 N/O and 1 N/C bi-directional solid state outputs. The solid state outputs offer simple series connection. They offer a 7mm switching distance and can approach on each other from most angles. The HE Series is IP67 rated. When combined with the SCU-1 control unit, it is a multi-gate switch solution capable of monitoring up to 30 switches in the series. Since the HE series is a HED double switch, it reduces the amount of wiring for multiple gates and reduces the brackets needed for mounting the switches.
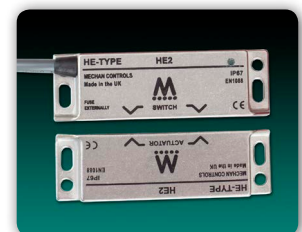
Tapeswitch ®

Tapeswitch Corporation offers a complete product line of mechanical, access, and power isolation interlocks, including access interlocks, key exchange units, main power isolation, solenoid controlled, valve, time delay and motion sensing units with a selection of keys and caps for the units.

Mechanical Access Interlocks

Access interlocks provide a trapped key method of obtaining access to numerous types of doors, hatches and panels.
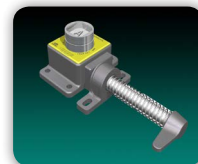
Mechanical Bolt Interlocks

Bolt interlocks are widely used for the interlocking of switchgear. The bolt is often used for the physical blocking of levers or rotary switches via a cam mechanism.
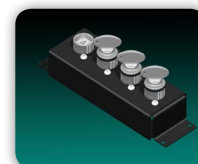
Control Power Isolation Locks

Key driven electrical switches suitable for isolation or switching of current.

Key Exchange Units

Key exchange units provide additional keys for when there are a greater number of access locks than number of keys from power isolation.
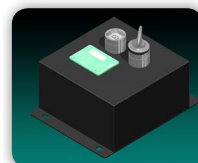
Main Power Isolation Interlock

Key driven switch disconnector available for the isolation or switching of 32, 63,125,160 or 250 amp systems.

Time Delay & Motion Sensing Units

Used when motor driven machinery and other systems with run down times do not provide a safe area at the instant of power isolation.

Solenoid Controlled Switch Interlocks

Designed to control access to hazardous machines with a run down time.

Keys And Caps

Keys and dust caps for different application functions and environments.