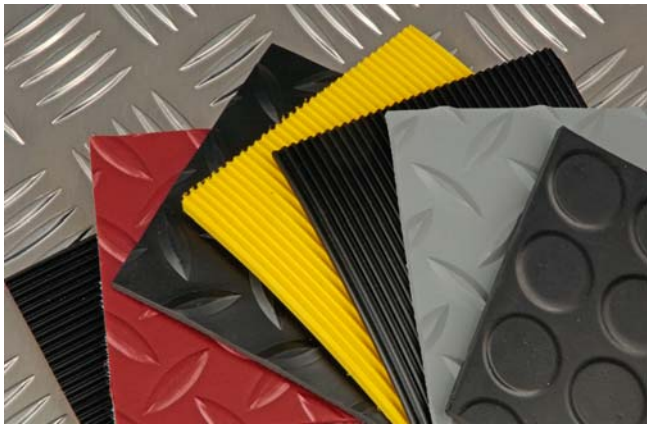
Solo Mats



Features

- Custom shapes & sizes
- Optional colours & top surfaces
- Optional sensitivities
- Company logos
- Aluminium edging
- TÜV approved
- Fail-safe operation
- Multiple switching zones
- AS-Interface compatible
- Volt-free, normally closed contacts

Tapeswitch mats are pressure-sensitive switches designed to detect personnel or objects in a variety of applications. A mat will operate when pressure (usually from a person's foot) is applied to the mat's surface.

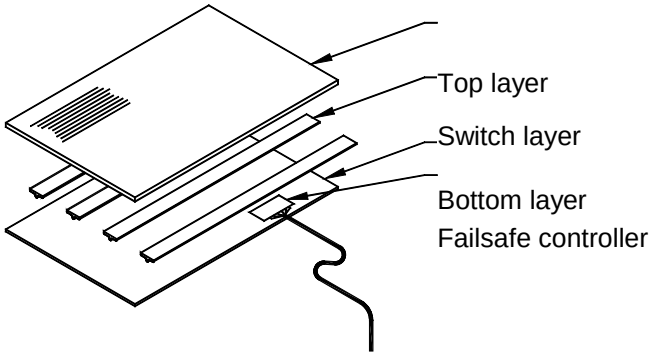
The major difference between a *Solo* mat and any other safety mat is that it has a Category 3 fail-safe monitoring function built into it. This configuration is ideal for AS-Interface systems, which connect sensors and actuators to remote control systems through only a 2-wire cable. The mats can be connected directly to the same kind of standard AS-Interface Safe I/O connection modules that are used to connect E-stop switches over the AS-Interface. This is much more convenient than the alternative of having an additional control unit close to the mat so that it can provide the volt-free, normally closed connections to the AS-Interface Safe I/O module.

Mats can also be used in non-safety applications where a floor sensor is preferred. We can incorporate colours, custom-shapes, -sizes, -sensitivities, multi-zone detection and moulded logos.

Technical specification

Colour	On request
Housing material	On request
Dimensions	On request
Depth	Approx. 15mm
Actuating force	<300N (30kg) (80mm test piece)
Response time	30ms
Inactive area	30mm wide around outer edge
Protection rate	IP65
Weight	Approx. 18kg/m²
Operating temperature	0°C to + 50°C
Operating voltage	24V d.c.
Switching current @ 24V d.c.	100mA max
Power consumption	0.5VA
Output configuration	2 x N/C volt-free

Construction



Typical Applications

- Machinery safety
- Interactive
  play zones
  theme parks
  advertising
- Access control
  banks
  intruder alert

GB 12/10

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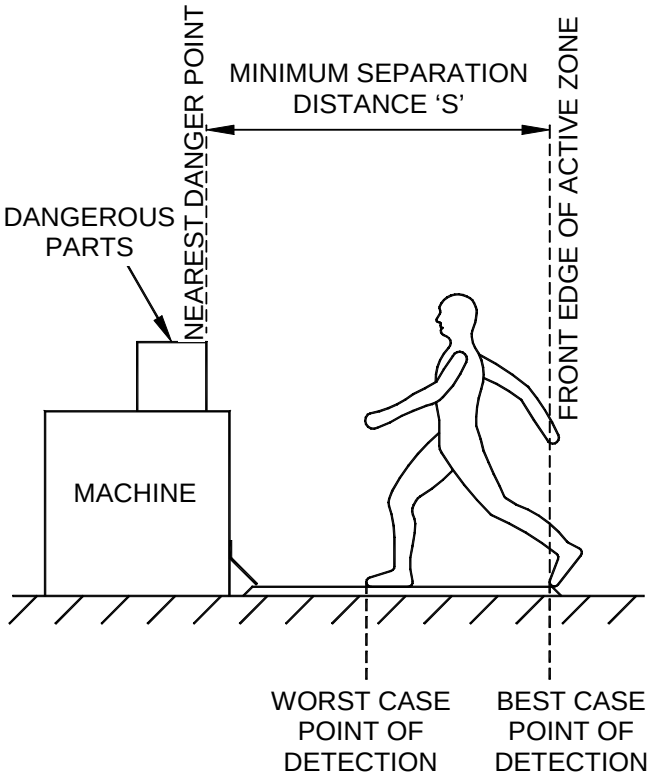
When a system is used to provide primary guarding, i. e. it is used as a trip device, it is necessary to ensure that the dimensions of the sensor are such that the machine is brought to rest before a person can reach the dangerous parts. If a mat is being used in a secondary guarding capacity, it is necessary to ensure that the dangerous area between the primary guarding device and the machine is completely protected. It should not be possible for a person to be in or stand in this area without standing on the mat.

The safety mat should therefore be dimensioned such that the nearest point at which a person could first touch the mat is at a sufficient distance from the dangerous parts to prevent the person reaching them before they have stopped.

In order to determine the position of the front edge of the active zone, it is necessary to consider the stopping performance of the machine. From the instant that a person's foot touches the mat to the instant that dangerous motion actually ceases is called the overall system response time. The overall system response time, T, is given by the following calculation:



T = t1 + t2

where t1 = the maximum response time of the safety device between the actuation of the sensor and the generation of the stop signal = 30ms (Measured according to DIN V 31006-1).

and t2 = the response time of the machine between receiving a stop signal from the safety device and the dangerous parts coming to rest.

The dangerous parts will obviously continue to move during this time. The sensor must therefore be dimensioned such that a person cannot reach the dangerous parts before they have stopped.

According to BS EN999 the minimum separation distance, S in millimetres, can be calculated using the following formula:

S = (1.6xT) + 1200

Where T = overall system response time in milliseconds

When a mat is used to provide secondary guarding, i. e. it is used as a presence sensing device, the above formula does not apply. However, the mat(s) should be positioned so that it is not possible for a person to remain undetected in a dangerous position.

AE-13 Mat Edging

AE-13 aluminium edging provides a means of securing the mat to the ground and also provides an anti-trip feature. Please contact us for further details.

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Order Code

XXXX *Solol* XX / XXXX / XXXX / XXXX / XXXX

Sensor type

Edge preparation
SE - Square Edge

Cable position
LLD - Long Edge, Left Side, two 2-Core Cable
LRD - Long Edge, Right Side, two 2-Core Cable

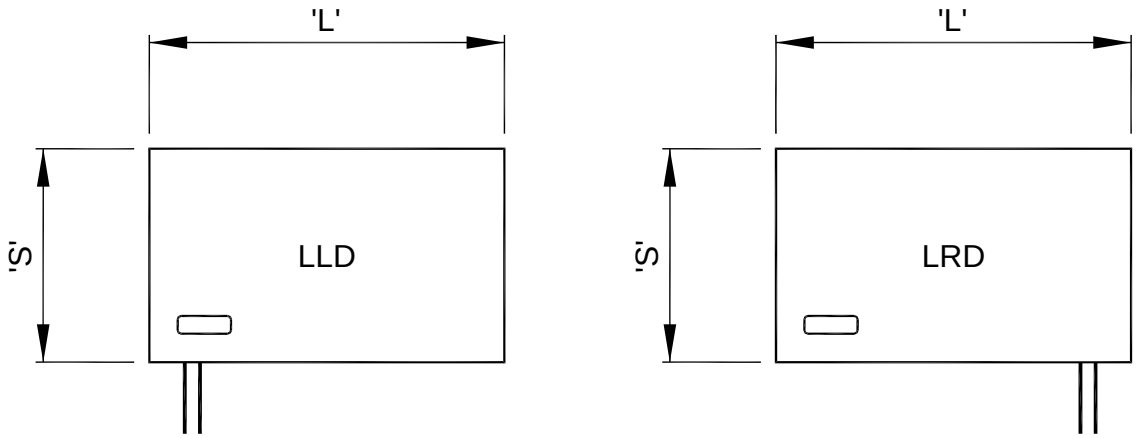
Long edge length mm

Short edge length mm

Cable length mm

This is only a sample order code. If you have any special requirements, please contact our sales team.

Lead Position Options



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