

SAFETY MATS



ANHYUP



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www.hts.international

We've been committed to serving you since 1984. Originally, we specialized in manufacturing industrial safety protection devices, focusing on disaster prevention in domestic industrial settings.

Over the years, we've earned recognition, including the No. 1 performance test rating from the Ministry of Labor.

Our dedication to improving products through continuous research, development, and quality enhancements is unwavering.

The Anhyup Electronics team works tirelessly to develop and enhance new solutions. Furthermore, in February 2001, we secured ISO 9001 certification from the International Institute of Technology and Quality.

Our pledge is to consistently deliver top-quality products to our customers while prioritizing their safety as a responsible company.



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 **SAFETY MAT SWITCH**
MADE IN KOREA
ANHYUP 산업안전 시스템 안협전자주식회사

What is a Safety Mat Switch?

In the realm of factory automation, robots and numerical control systems have become integral in industrial settings. As smaller machines gain prevalence, there is a notable improvement in worker safety. However, with the expanding risk areas within factories, a proactive safety device has emerged with the primary aim of preventing accidents and enhancing worker safety. This device is known as the safety mat switch.

The safety mat switch operates by detecting pressure applied to the countless contact points on both the upper and lower layers of the mat. When pressure is applied, it triggers the so-called "A" contact point. Importantly, it also operates similarly to the "B" contact point, which remains unmonitored. This design ensures that any liquids present can be swiftly drained away, guaranteeing comprehensive safety. You can rely on this safety mat switch to bolster workplace safety.



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Industrial Robot Safety Mat Switch

The AMS Series Safety Mat by Anhyup Electronics Co., Ltd. is a pressure sensor engineered to check for the presence of individuals or objects on its sensing surface. This device serves as a force-sensing protective mechanism. It operates by detecting pressure when two conductive sheets are pressed together and is available in standard-sized mats as well as customizable variants. If you require a product with a compact form, you have the option to select the border (aluminum guide) and a dedicated controller.



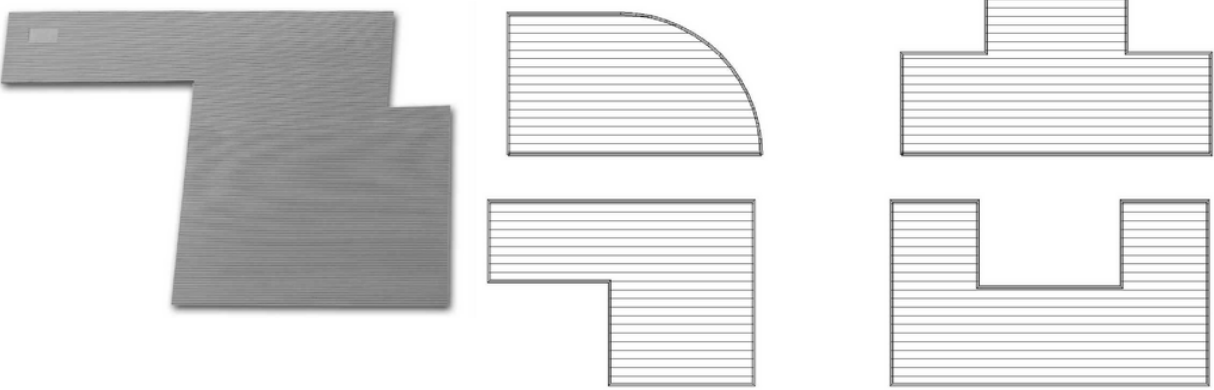
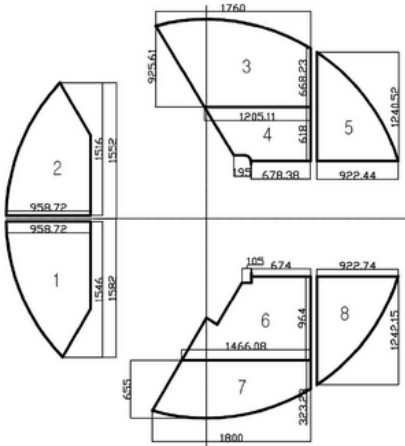
Suitable Applications

- Injection Moulding Machines
- Lifters and various logistics devices
- Automotive production and assembly lines
- Around press machines
- Around conveyor lines
- Automotive welding line
- Around automotive machine tools
- Applicable to automatic doors or off-limits areas at hazardous work sites, etc.



Custom-Made Safety Mats Tailored to Your Requirements

We offer safety mats designed to meet your exact specifications, accommodating any size and shape to suit a wide range of applications.



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By connecting up to 8 units of industrial safety mat switches to our robot controllers, such as AMS4 and AMS8, we can monitor and control the status of the safety mat's functionality, including defect alerts and detection updates.

Please note:

- The MAT controllers AH-AMC4 and AH-AMC8 are sold separately.
- To use the industrial safety mat switch for robots as a KCs certified product, it must be configured as a set with a MAT controller. Only then can it obtain KCs certification.



AH-AMC8



AH-AMC4



AH-MC11D



AH-MC41D



AH-MC44D



AH-MC41A



AMC Series Mat Controller Features

- 8-bit MCU, 128Kbytes in System
- Mat switch 8 circuit monitoring and control
- Output contact NC 2ea, auxiliary contact NC 2ea, NO 1ea)
- Built-in safety circuit (disconnection detection circuit)
- Failure monitoring circuit (output relay welding monitoring circuit)
- Mat S/W invalidation function with conversion switch
- Indication of operation status and disconnection using two-colour LED
- Connect up to 8 safety mats, individual dip switches for select or isolate
- Continuous injection and monitoring of 8 (multiple) mats
- Output monitoring circuit configuration
- Response time 250ms or less
- AUTO start/manual start function
- 8 mat input circuits, 1 output circuit
- Terminal block is detachable
- Power consumption DC24 V@ 1A (Max)



AH-MC Mat Controller Features

- 8-Bit MCU, 16 KBytes in System
- Monitoring and control of 4 mat switches
- Output contacts: NC, NO (with additional auxiliary contact configuration)
- Integrated safety circuit (disconnection detection circuit)
- Monitoring circuit for detecting failures (output relay fusion monitoring circuit)
- Mat switch invalidation function with switch conversion
- Display of operational status and disconnection using a two-colour LED
- Connect up to 4 safety mats, individual dip switches for select or isolate
- Configuration with output monitoring circuit
- Response time of 200mS or less
- AUTO start/manual start function
- 4 input circuits for mats, 1 output circuit
- Power consumption: DC 24 V at 1A (maximum)



LED Module

To enhance the display functionality of the safety mat, we incorporate a light-emitting LED module and establish a dual safety circuit that includes an emergency stop switch.

Please be sure to specify your preferred colour when placing an order and confirm the expected delivery date.

Surface material	Oil-resistant NBR rubber plate with NON-SLIP structure
Support	Oil-resistant NBR rubber sheet
Internal Charging insulator	Polyurethane foam sponge
Contact Interval	7mm
Color	Surface (gray), bottom (black)
Durable Life	200,000 + Contact Times
Insulation Resistance Initial	5MΩ or more
Contact Resistance	0.1Ω
Temperature Range	1°C~50°C
Mat Allowable Current	10mA or less
Thickness	13mm

Features:

- Implementation of a dual monitoring circuit in the input stage of the MAT component.
- Micro-current detection functionality.
- Power monitoring feature (preventing malfunctions by cutting power when voltage drops below 18V).
- Reinforced relay fusion circuit and enhanced output display function.
- Improved fault diagnosis capabilities, including mat disconnection and relay defects.
- Enhanced power circuit to mitigate noise and electromagnetic interference due to heat generation.
- Augmented display functionality and automatic/manual start function.

The AH-AMC MAT SWITCH controller is an assembly of the MAT SWITCH utilizing an existing circuit. This compact MICRO PROCESSOR-based controller accommodates 8 circuits and monitors the status of each circuit. It regularly checks and displays the circuit's status using a two-color LED and indicates the circuit number using the SEGMENT LED. Each mat operates independently, even when multiple mats are used and managed simultaneously. This design simplifies the identification of faulty mats and improves installation and operation convenience. This device serves as a supplementary safety mat protection system.

