

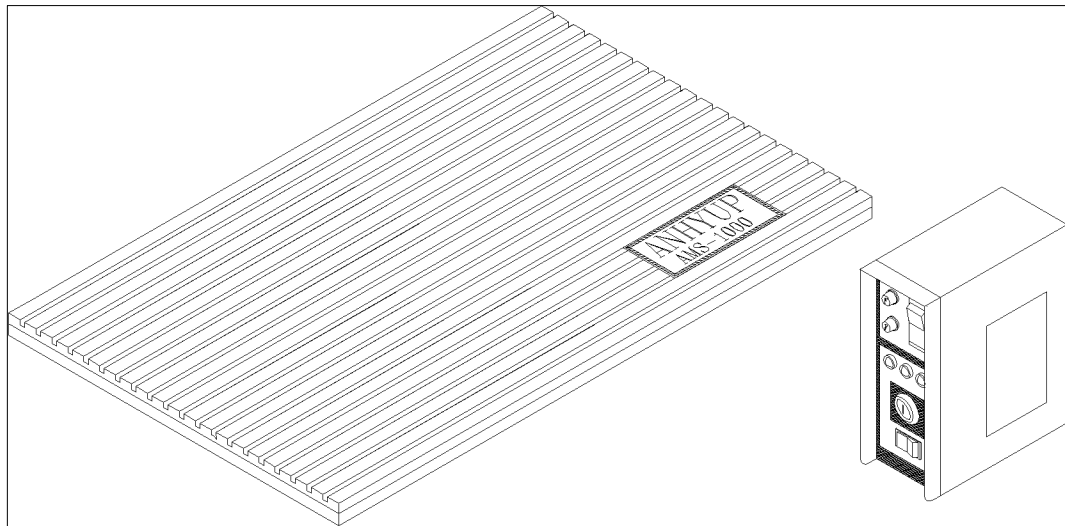
안전 매트 스위치

Safety Mat Switch

AMS-1700 series



Using Manual



카탈로그 번호 AMS-1309A

1. What is the safety mat switch?

As robots and numerical control engineering machines are commonized due to the automation of the factory, dangerous areas are increasing within the factory that is threatening the safety of the workers, and as a result a safety equipment of positive concept has been created for the "prevention of safety accidents" which is the safety mat switch.

The innumerable contacting points in both top and bottom layer go on at the pressing pressure point. You can feel more safe on safety insurance because the monitoring current flows without any leakage as the contact point B which is the so called contact point A.

2. Usage of safety mat switch

2.1 Electronic, electrical appliance production line

2.2 Lifter and various material conveying equipment

2.3 Automobile production and assembly line

2.4 Around the press machine, around the conveyor line

2.5 Automobile welding line

2.6 Around automobile engineering machinery

2.7 It can be applied to the automatic door or off limit area of dangerous work site etc.

3. Characteristics of the safety mat

3.1 Long life span : Repeated load of 100kg for "250,000 times"

3.2 Detecting sensor : Maximum of 10Kgf/Φ100mm or below

3.3 Safety : Safety insurance with fail safe circuit

3.3.1 Possesses power on latch circuit

3.3.2 Possesses disconnection detecting circuit

3.3.3 Possesses relay contacting point connection detecting circuit

3.3.4 Insurance of detecting output that fits the characteristic of the installation object machine with the toggle/latch mode selection.

3.4 Wide detecting surface : It can be detected in all the area besides the frame of 50mm

※ "Power On Latch" circuit refers to the device preventing the emergency safety accident by maintaining the output to emergency stop condition irrelevant of the existence of contacting point of mat switch when the power is turned on.

4. Name and function

Power fuse
Fuse for power line (0.5A)

Output fuse
Fuse for output line (2A)

Checking Lamp

It goes on when the safety equipment is in ***** normal stand by condition and it goes off when detecting the disconnection



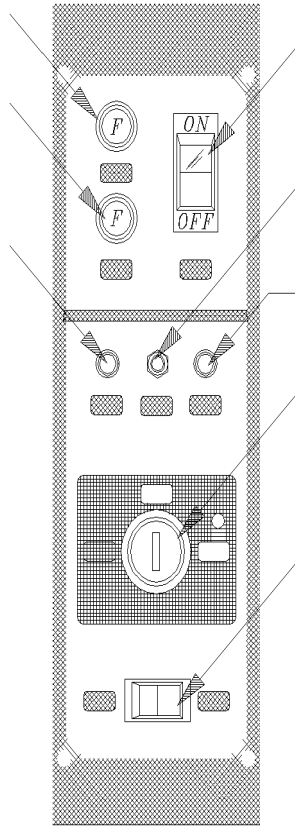
TOGGLE ↔ LATCH

* LATCH MODE

Once detected the emergency stop output is continuously maintained and it can be canceled by using the reset switch.

*TOGGLE MODE

The emergency stop output occurs while sensed.



Power switch

If you turn on the power switch of the safety equipment the red lamp goes on.

Reset switch

It is used when operating the equipment function directly after the power insertion or when returning the emergency stop output to normal in the latch mode

Danger lamp

When the worker is with in the detection ranger of the safety mat range it goes on, and it goes off when contact point of the relay is connected

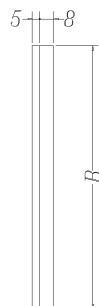
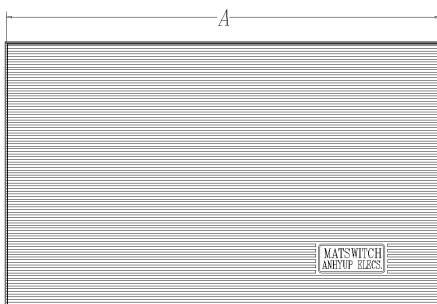
Key switch

It temporarily stops the fuction

Manual check switch

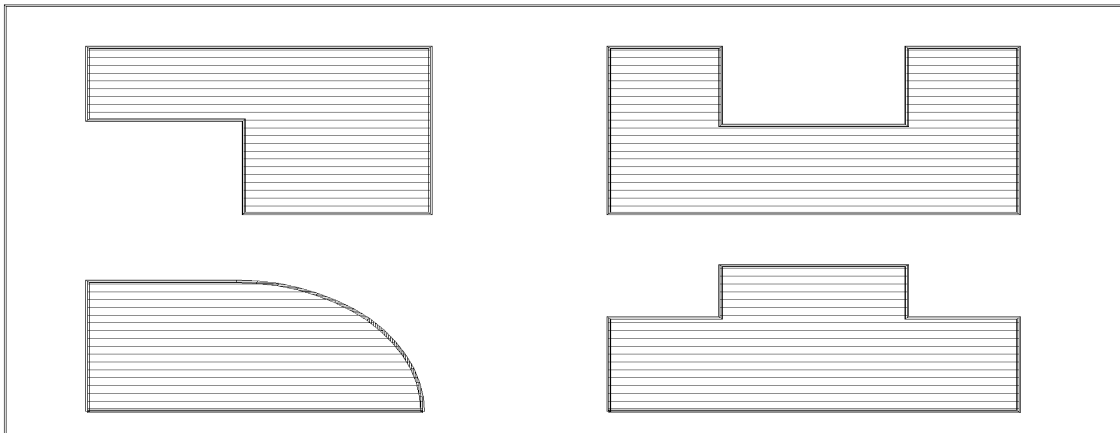
As the checking switch for function of contact point in connection detecting circuit of output relay, it the output for emergency with the output contact point in connection condition when the mat is stepped on in "check" location and it notifies the worker by turning off the "danger indication lamp" <After checking, it recovers to its original condition when turned on after turning it off

5. External appearance



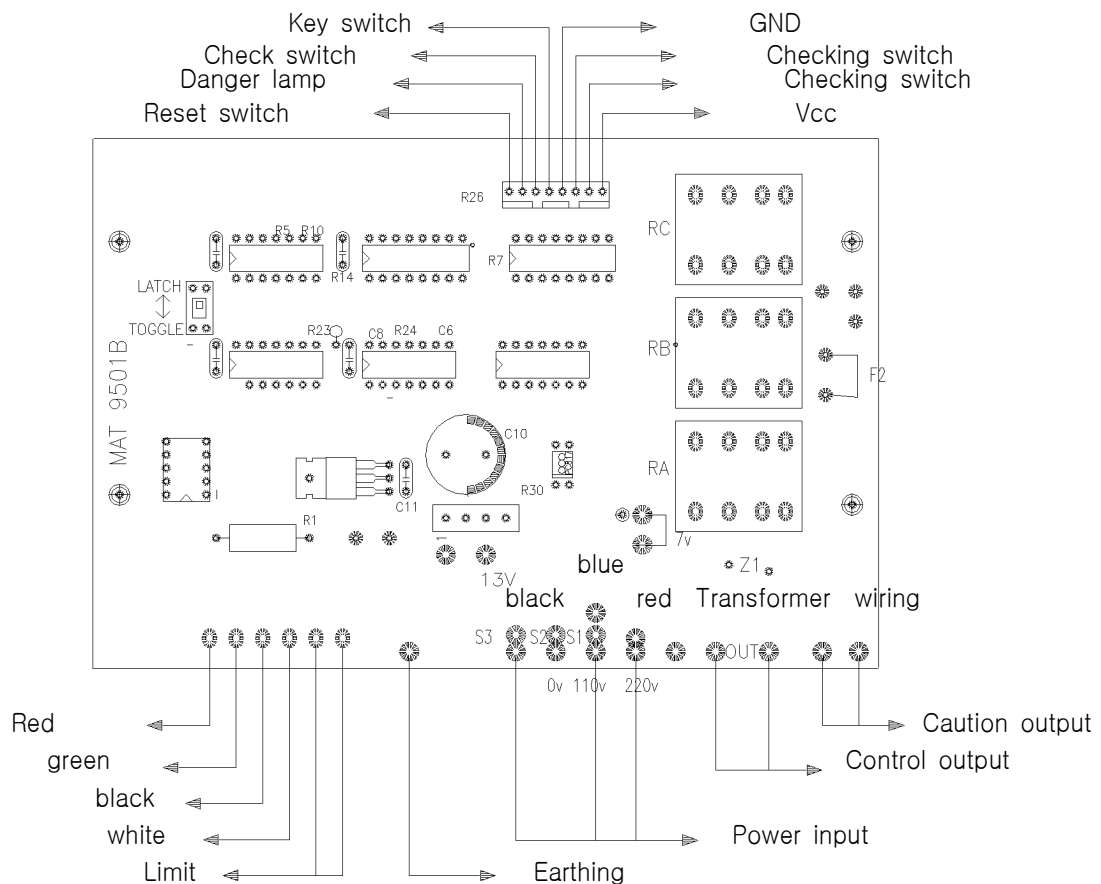
Model	A	B
AMS-1700	1000	700
AMS-1750	700	500

** Form example of special type **



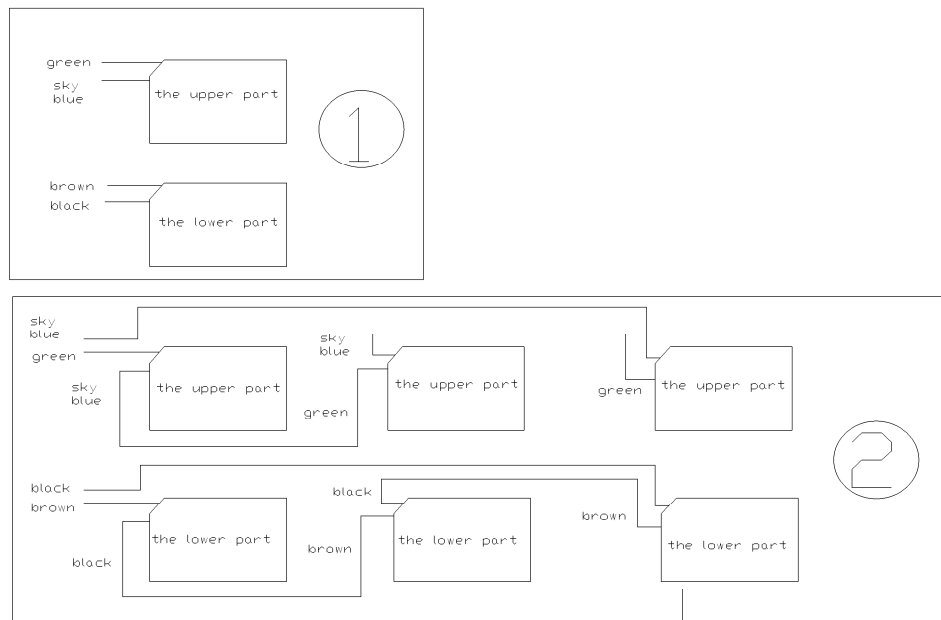
6. Connection

6.1 Because the connection work is the important process that decides the function of safety mat switch, refer to the following figure and execute the connection without any mistake.



- Caution output : The contact point output made when the key switch is in invalid location, and it can be used in the LED or monitoring system
- control output : If

- Limit switch : It is used when the net switch in a certain section of the process cycle need to be invalidated according to the characteristic of the machine, and it is invalidated during the contact point of the connecting switch is made and this function has the priority even in the emergency output latch condition.
- Red, green, black, white color : Connection with same color line of the mat.



- 1) When you using only one Safety Mat Switch like the manual NO.1 :
Two connected wirings, that one of it joined green line with white line, the other wiring joined red line with black line, should be used contact point.
- 2) When you using more than two Safety Mat Switches like the manual NO.2 : You should connect the line like the manual and then two wirings, that one of it joined green line with white line, the other wiring joined red line with black line, could be used contact point.
- 3) When you using the Safety Mat Switch with the Safety Mat Switch Controller :

way to Safety Mat switch \Leftarrow brown - brown \Rightarrow way to Controller
 black - black
 green/yellow - green/yellow
 sky blue - sky blue

7. Specification of safety mat switch

7.1 Capacity of contacting point : 10mA/AC100v, DC 24v (MAX)

7.2 Contact resistance : 0.5Ω or below (when it is above operating voltage)

7.3 Operating load : Maximum of 10Kgf/Φ100mm or below

7.4 Using temperature range : Within -20℃ ~ +60℃

7.5 Life span of contact point : Standard using 250,000 or above

7.6 Top and bottom rubber plate : Oil-proof N.B.R rubber

7.7 Color : Black (floor surface), grey (surface)

7.8 Size : Standard size: 500×700mm, 700×1,000mm (special type is order manufactured)

7.9 Thickness : 13mm