IIDEC
INSTRUCTION SHEET
HS1E Safety Switch
Confirm that the delivered product is what you have ordered. Read thi sist sure of correct operation. Make sure that the instruction sheet is kept ty the end user.
SAFETY NOTE

11 Typ


3 Mounting

- Mount the actuator on the door.
(Examples of Mounting on Sliding Doors)




4 Notes for Operation

- Regardless of door types, do not use the safety swith as a door stop. Install a mechanical
door stop at the end of the door to protect the safety swith against an exassiv the door stop at the end of the door to protect the safaty switch against an excessiviv force.
- Do not apply an excessive shock to the safery swith when opening or closing the door.

Regardless of oor tor tyes, do not use the safety swith as a door loc
Install a separated lock ss shown in item 3 . Instaila separatad lock as sity
When openg the safery whit
See the figure on the right.)


 Entry of foreign obiects a conduit or wer ng. of the safety swith and cause a breakdown. II the operating atmosphnere is
contaminated.use a p potoctive oover toprevent the entry of foreign objects





## A CAUTION

Urn off the power to the safety switc before starting installation, removal, wiring,
maintenance, and inspection on the saferty switch. Failure to turn power of may cause electricinal sho, and ord inspection tire hazard.
.
Use wires of a
 screws to a recommended tightening torque of 0.9 to $1.1 \mathrm{~N} \cdot \mathrm{~m}$. Loose terminal screws will cause
unexpected heating and fire hazard during operation. Do not instal the actuator in the location where the human body may come into contact Otherewisi iniury may occur.
Pay atentinton to the manaement of spare actuator. Safery function of safety switch will be los case the spare actuator is inserted into the safety switch.

- Ensure that the actuator is firmly fastened to the door (welding, rivet, special screw) in the
- Ensure that hee actuator it simly fastened tit the door (Melding, rive
appropitiat elocation, so that the actuator cannot te removed easily.

Manual Unlocking
. The HSTE allow

- The HS1E allows manual unlocking of the key to precheck door operation before wiring
or turning on power, as well
or turning on power
(Uncking Method)
- HS1E with manual
HS1E with manual unlock key :
To change the non
 fully 90 degrees) using the red dhasticict key nincluded with
the saferty switch Using the safety switch with the key

$\underset{\substack{\text { Normal } \\ \text { Position }}}{(0)} \underbrace{(0)}_{\substack{\text { Manual } \\ \text { Unosking } \\ \text { Position }}}$

Ko neep the main circuit disconnected and the door unlocked.
Do not atach the key to the saiely swith intentionaly (he
desined to foll of twhen the operators sand is oft the kyy.
In such case, safely standards become unapplied because
 and herefore will iive hazaradous
HS1E without manual unlock key:
- HS1E without manual unlock key:
Remove the scew at the side of the saty switch using the wrench
for mounting the HSIE Elid. Push the lever inside the safetey switch
 toward the piot light using a small scre
unlocked. See the figure on the right.


Inserta a small screwdriver form the hole of the reverse side of the
In
 light using a small screwdriver untit the a atuator is unlocked.
See the figure on the ingt. A hol for the tever shold be opened on
the mounting panel. When opening the hole,

## against water and other foreign objects.

## - CAUTION

comere manually ynlocking the safety swith, mate sure the machine has come to a
the machine Manaua ullocking doring operation may unlock the safety switch before
5 Adjustments
Minimum Radius of
Whingen using
.
When using the safety switith for a hinged door, the minimum radius of
the applicale door s shown in the following fify

_-1
e based on the condition that the actuato enters and exits

Actuator Mounting Reference Position
As shown below, the mounting reference position of the actuator inserted into the satety



$$
\begin{aligned}
& \text { lotuator Mounting Tolerance } \\
& \text { Hounting tolearco of he actuato is } 0.5 \mathrm{~mm} \\
& \text { torm the conter of the the actuatorot to up, down, } \\
& \text { right, and, left. }
\end{aligned}
$$

$\frac{\text { Actuator }}{\text { Cover }}$ Hs92-A2S H592-A3S

Actuator can move
3.3mm (HSOZ-A1S
 $\left.\begin{array}{l}\text { alfecting the contact operation. } \\ \text { Deviaition of } \\ \text { actuato position }\end{array}\right)+\binom{$ Deviaion of }{ door position }$\leqq 3.3 / 2.6 \mathrm{~mm}$ $\qquad$

$$
\begin{aligned}
& \text { Hs9z-A1S and A2S }
\end{aligned}
$$

ecommended Screw Tightening Torque




 Angle adjusting gcreew of HSgz-AR
(M3 Hexegan Socket Head Screw) (9) Rubber Cushions $\oplus$

Opening the Connector Hole
Break a desirec knockoe Break a desire
a soremodiver.
Remeve the co

- Remove ine connector lock nut from inside the safety switch before breaking the knockout to open a connector hole
- When breakint the knockutt o open a comnector
damage the damage the interana lo ontaut thoock.
Note: Cracks or butrs on the cocke

Ujusting the Angle Adjustable Actuator (HS9Z-A3S)
USing the engle adjusting screve M M M hexagoo
the actuator angle can be adiusted up to $20^{\circ}$ $\qquad$

 After installing the actuator, open the door. Then adjust the
actuator enters the entry slot of the safeety switch properly.
actuator enters the entry sot of the safety switch properly.

- Ater adiusting the actuator angle, apply loctite or the ike ite on the ajusting screw to prevent loosening.


| Door States |  | Closed |  | Closed |  | Open |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type HS1E-4D | Main Circuit | -3.4: | Closed | ${ }^{3} \cdot 4$ | Open | -34 | Open |
|  | Asxilay Cicuit | 1-2: | Open | ${ }^{1-2}$ | Closed | 1-2 | Closed |
|  | Solendid Power | -5.6: | off | ${ }^{56} 6$ | On | 5.6 | Offion |
| Type HS1E-14 $\square$ | Main Circuit | -3.4: | Closed | ${ }^{12} 4$ | Open | 3.4 | Open |
|  | Axxilay Cicuit | 1-2: | Open | 1-2 | Open | 1-2 | Closed |
|  | Solenid Power | -5.6: | Off | ${ }^{56} 6$ | On | -5.6 | Offion |
| Type HS1E-24 | Main Circuit | -3.4: | Closed | ${ }^{3} \cdot 4$ | Open | ${ }^{3} 4$ | Open |
|  | Auxiliay Ciruit | -1-2: | Closed | ${ }^{1-2}$ | Open | ${ }^{1-2}$ | Open |
|  | Solendid Power | -5.6: | off | ${ }^{56.6}$ | On | -5.6 | Off/On |
| Type HS1E-34 $\square$ | Main Circuit | -3.4: | Closed | ${ }^{3} \cdot 4$ | Open | ${ }^{3 \cdot 4}$ | Open |
|  | Axxilay Ciruit | 1-2: | Closed | 1-2 | Closed | -1-2 | Open |
|  | Solenid Power | .5.6: | Off | 5.6. | On | 5.6. | Offion |
|  |  |  | locked. |  | s unlocked. machine can |  | ne can |



Appicable Connectors
se a connector with a degree of protection IP67. When using the M20 connector, replace the locking nut in the safety tel (9) When using fiexible conduit and metal connector
. Type VE-03(made by Nihon Flex)

When using plastic connector, metal connector and multi-core cable
(G1/2)Applicabile Plastic Connector Example: Type SCS-10


Apppicable Metal Connector Example: : Type ABS-DपPG13.5(made by Niton Flex)
(M2)Applicable Plastic Connector Example: ST-M20 $\times 1.5$ (made by LAPP)


7 Dimensions


RP: Actuator mounting reference positio


8 Precaution for Disposal
8 Precaution for Disposal

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