

# INSTRUCTION SHEET

## Plastic Type Slide Handle Actuator HS5 Series

Confirm that the delivered product is what you have ordered. Read this instruction sheet to make sure of correct operation. Make sure that the instruction sheet is kept by the end user.

### Safety Precautions

In this operation instruction sheet, safety precautions are categorized in order of importance to Warning and Caution:

#### WARNING

Warning notices are used to emphasize that improper operation may cause severe personal injury or death.

#### CAUTION

Caution notices are used where inattention might cause personal injury or damage to equipment.

### 1 TYPE

Key HS9Z-LH 5 K L-□□□□ To select key numbers  
 Blank: Without Key Blank: 500  
 K: With Key 501 to 515: 501 to 515

Rear Lever L-□□□□ To select rear lever numbers  
 Blank: Without Rear Lever  
 L: With Rear Lever

\* Key numbers other than the above are not supplied as standard. Contact IDEC if required.

### 2 Specifications and Ratings

Applicable Type	<ul style="list-style-type: none"> <li>HS5D Interlock switch Type No. HS5D-□□**</li> <li>HS5L Interlock switch with solenoid Rear unlock button type Type No. HS5L-□44L**G</li> <li>HS5L-K Interlock switch with key Type No. HS5E-K□L#M-2△#</li> </ul>
Weight (approx.)	Approx.650g (HS9Z-LH5L) Approx.700g (HS9Z-LH5KL)
Operating Temperature	-30 to +70°C
Mechanical Durability	100,000 operations minimum (Key Operating Durability: 10,000 operations minimum)
Applicable Shackle Diameter of Padlock	ø6 to 9mm
Withstand Load of Padlock	50N minimum
Handle Stroke	Approx.80mm
Thickness of Mounting Part	30 to 65mm (HS5L/HS5L-K) 70mm maximum (HS5D)

Note1: When using on an Interlock switch with solenoid/key type, the type with rear unlock button is recommended.  
 When using on a Slide Handle with Key (Type No.HS9Z-LH5K□) and prevent to confine the operator in the safety hedge (dangerous area), the type without rear unlock button can be used.

- Interlock switches are not supplied with the slide handle actuator and must be ordered separately.
- For the interlock switch, see the specifications of the interlock switches used.

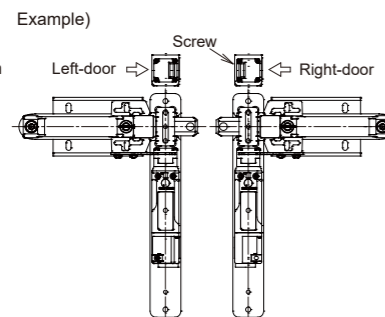
### 3 Mounting Examples

- Confirm that the package contains the following parts.

Parts	Q'ty			
	HS9Z-LH5	HS9Z-LH5L	HS9Z-LH5K	HS9Z-LH5KL
(1) Switch base	1	1	1	1
(2) Handle unit	With Key	0	1	1
	Without Key	1	1	0
(3) Actuator	1	1	1	1
(4) Actuator stop	1	1	1	1
(5) One-side screw (M5)	2	2	2	2
(6) Spring washer	2	2	2	2
(7) Rear lever	0	1	0	1
(8) Key	0	0	1	1

#### Mounting Directions of the Head

Before installing the interlock switch, change the head direction according to the door type (right-hand or left-hand) as shown at right figure. For the changing of head direction, see the instruction sheet of the interlock switches used.



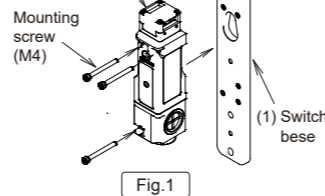
#### Installing the Switch Base

- Using mounting screws, fasten the interlock switch on (1) Switch with Base. Mounting screws are not supplied and must be provided by the user. (Fig.1)

Interlock switch	Mounting screw		
	Size	Q'ty	Thread length
HS5L/HS5L-K	M4	3	36 to 40mm
HS5D	M4	2	27 to 31mm

#### Example

HS5L Cable Side-Routing Type (Note2)



Note2: When using on an HS5L cable side-routing type (HS5L-□44LSM-G), rotate the terminal cover 180° according to the door to be installed.

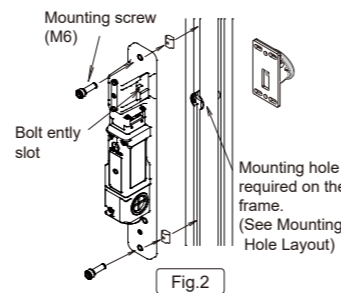
- Fasten (1) Switch Base on the mounting frame or panel. Mounting screws and nuts are not supplied and must be provided by the user.

\* Installing the rear unlock button Install the rear unlock button kit for frame mounting (HS9Z-FL5□). For detail, see the instruction sheet. Remove the standard button from the HS5L-□L/HS5L-K□L Interlock switch in order to install the rear unlock button kit for mounting frame. (Fig.2)

#### Rear unlock button kits for Frame mounting (HS9Z-FL□)

Type	Thickness of mounting part (Y): mm*
HS9Z-FL54	30 ≤ Y ≤ 35
HS9Z-FL55	35 < Y ≤ 45
[HS9Z-FL56]	45 < Y ≤ 55
[HS9Z-FL57]	55 < Y ≤ 65

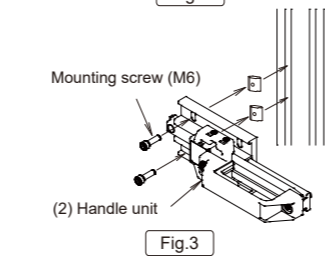
\* See 6. Dimensions and Mounting Type No. in [ ] are not supplied as standard. Contact IDEC if required.



#### Installing the Handle Unit

- Fasten (2) Handle unit on the mounting frame or panel. Mounting screws and nuts are not supplied and must be provided by the user.

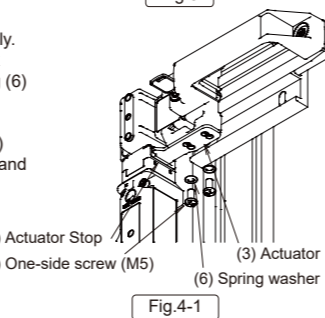
\* Make sure that the bolt should fit the bolt port on (1) Switch Base. (See 5. Adjustment) (Fig.3)



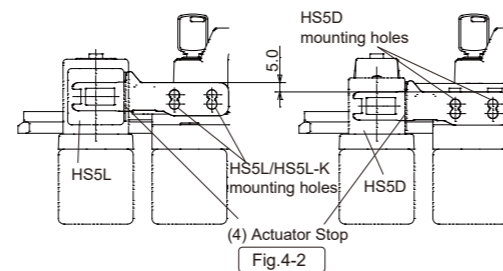
#### Installing the Actuator

- Insert the Handle Unit into (1) Switch Base perfectly. With (4) Actuator stop lightly touching the interlock switch, install (3) Actuator on the handle unit using (6) Spring washers and (5) One-side screws.

\* Make sure that the boactuator is installed straight. Using (5) One-side screw, fasten (3) Actuator on (2) Assemble (6) Spring Washer between (3) Actuator and (5) One-side screw at that time. (Fig. 4-1)



\* When mounting, do not mount the actuator on an angle.  
 \* HS5E-K□L, HS5L-□L and HS5D have different actuator mounting holes. See the figure below and fasten the actuator using the attached mounting screws (Mounting screws are one-side screws and require special tool for removal. Removal tool OW510 (Made by SAIMA CORPORATION)(Sold separately))(Fig.4-2)  
 \* After mounting the actuator, remove the actuator stop from the interlock switch.

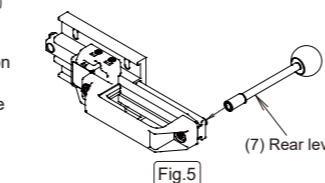


#### Installing the Rear lever

- Fasten (7) Rear lever on (2) Handle Unit. (Fig.5)

\* After mounting the screw, apply loctite or the like on the adjustment screw to prevent loosening. Use screw locking agent that is compatible with the base material.

\* Mounting screws and nuts are not supplied and must be provided by the user.



### 4 Specification

#### WARNING

- Turn off the power to the interlock switch before starting installation, removal, wiring, maintenance, and inspection on the safety switch. Failure to turn power off may cause electrical shocks or fire hazard.
- Do not disassemble or modify the switch. Also do not attempt to disable the interlock switch function, otherwise a breakdown or an accident will result.

#### CAUTION

- Do not use with other than applicable interlock switches.
- Read instruction sheet before starting operation.
- HS5 Series Interlock Switches are Type 2 low-level coded interlocking devices (EN ISO/ISO14119). When using the slide handle actuator in the safety-related part of the system, make sure of proper operation while observing the safety standards and the latest regulations of the relevant country or region where the actual machine/system is used. Also, perform risk assessment before operation.
- The maximum door gap when the actuator was inserted by operating the handle varies depending on mounting part width. Always check the gap on the actual machine. When checking the gap, if the safety distance determined by ISO 13857 (JIS B 9718) or the minimum gap required cannot be secured, take the necessary measures to either ensure the door does not open and widen the door gap or secure a sufficient safety distance from the danger points.

- Install a mechanical door stop to the end of the door to protect the slide handle actuator against excessive force.
- Do not move the slide handle actuator with force of 1400N or more when the door is locked. Otherwise, the actuator may be damaged and may not operate properly.
- Immediately replace the deformed or damaged HS9Z-LH5 with new ones.
- Do not open the door while the actuator is inserted into the interlock switch.

When using with hinged doors: Bending force is especially concentrated at the doorbolt (bolt and handle unit) for double doors, making the doorbolts more prone to deformation and damage.

When using with sliding doors: A gap develops between the stationary part and moving part of the door when safety output is on. Secure a sufficient safety distance from the danger points.

- Install the slide handle actuator on the outside of the door. Do not install inside the door, closed by the operator, affecting the operation and causing possible danger to the operator.
- Do not close the door when the bolt is slid out. Otherwise, the may be damaged and may not operate properly.
- Install the slide handle actuator in the direction as shown on the right, so that the cable hub faces downward. Do not install in any other direction.

#### Handle Operation

- Lift the knob completely before operating the handle as shown on the right. Make sure to lift the knob first, otherwise damage may be caused.

#### CAUTION

- When operating the handle, be careful so that your hand or finger is not caught.

#### Padlocking

- Mount the padlock or hasp in the padlock hole.
- Make sure that the total weight of padlocks and hasp does not exceed 50N maximum the slide handle actuator will be deformed or damaged.

#### Rear lever

The actuator cannot be inserted using the rear lever.

#### CAUTION

- Do not attempt to insert the actuator using the rear lever. Otherwise the actuator may be damaged.

#### Key

- Key operation

Key position	Key	Knob
FREE	Retained	Operable
LOCK	Removable	Inoperable

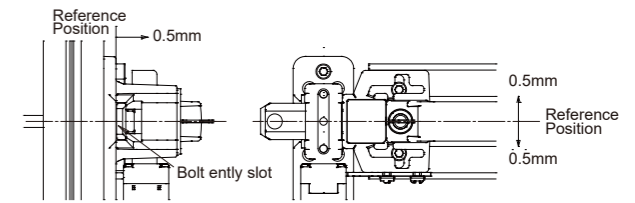
- Turn the key to the LOCK position and extract it when opening the door and prevent a third party from operating the Slide Handle.

- Be sure to take the following precautions. Otherwise, failure or damage may occur.
- When using the key, insert the key all the way.
- Do not apply a rotative force when inserting or removing the key.
- Also, do not pull the key during operation. Otherwise failure or damage may occur.
- Other than the standard key, there are 15 key variations. Be sure to use a key and cylinder with the same number.
- Do not apply excessive force to the key. Otherwise failure or damage may occur.
- With the key in the FREE position, do not turn the key to the LOCK position with the actuator inserted (door close) or with knob gripped. Otherwise failure or damage may occur.
- With the key in the LOCK position, do not grip the knob and insert the actuator.

### 5 Adjustments

#### Actuator Mounting Reference Position

- The mounting reference position and allowable mounting range are as shown on the below.



#### Recommended Tightening Torques

To install	Tightening Torque
To install HS5D interlock switch (M4 screws × 2)*	1.8 to 2.2N·m
To install HS5L-□L/HS5L-K□L interlock switch (M4 screws × 3)*	
To install Switch Base (M6 screws × 2)*	4.5 to 5.5N·m
To install Handle Unit (M6 screws × 2)*	4.5 to 5.5N·m
To install Actuator ((5) M5 One-side screws × 2)	2.7 to 3.3N·m

\* When the torque is not enough to recommended screw tightening torque, make sure that the screw do not become loose by using adhesive sealants etc.

### 6 Dimensions and Mounting

All dimensions in mm.

#### Mounting Hole Layout

Mounting centers:

Interlock switch	Z1 [mm]
HS5L	106.6
HS5L/K	107.8
HS5D	-

Note 3: Required when using the HS5L-□L/HS5L-K□L. Not required when using the HS5D because rear unlocking button is not necessary.

#### Dimensions

- HS9Z-LH5KL

Mounting Part Width (hinged door)

Mounting Part Width (W) mm	Mounting centers (X) mm
40 ≤ W < 45	50 ≤ X ≤ 60
45 ≤ W < 50	55 ≤ X ≤ 65
50 ≤ W ≤ 55	60 ≤ X ≤ 70
55 < W ≤ 60	65 ≤ X ≤ 70

\* In the figure shown on the left, □40mm frame is used.

(Installing HS5L Cable Side-Routing Type)

Material	
(1)	FE zinc plated
(2)	PA6 (black)
(3)	SUS
(4)	AL
(5)	PF (black)

Note 4: Ensure that the hole in the mounting panel does not interfere with the rear handle shaft.

Note 5: Mounting screw size is M6. Take this screw size into consideration when choosing a mounting part.

Note 6: When using on an HS5L cable side-routing type (HS5L-□44LSM-G), rotate the terminal cover 180° according to the door to be installed.

### 8 Precaution for Disposal

- Dispose of the HS9Z-LH slide handle actuator as an industrial waste.