

Use the grip-switch housing according to the following instructions after confirming that the product is what you have ordered.

⚠ Safety Precautions

- Read this instruction sheet to make sure of correct operation before starting installation, wiring, operation, maintenance, and inspection. Also, keep this instruction sheet at the end user.
- Turn off the power to the grip-switch housing before starting installation, wiring, maintenance, and inspection of the enabling switch. Failure to turn power off may cause electrical shocks or fire hazard.
- Use wires of proper size to meet voltage and current requirements. Using improper wires may cause fire hazard due to abnormal heat generation.

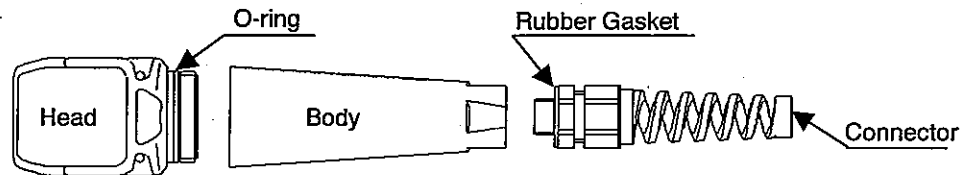
1. Application

- Housing to install the HE5B enabling switch for use as a 3-position grip switch.
- Housing to install the AB6M or AS6M switch for use as a hand-held switch.

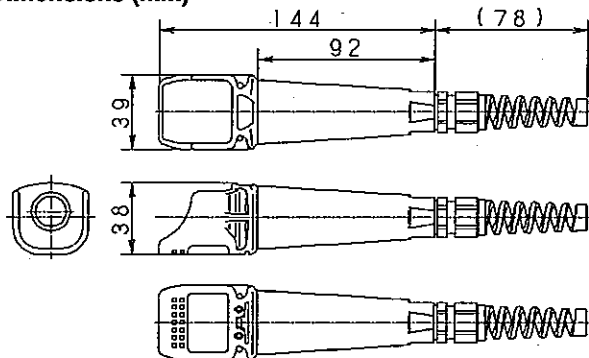
2. Unpacking

Before starting the installation of the grip-switch housing, confirm that no parts are missing and that no damages have been caused during transportation.

The package contains: A head, a body, a connector, and an instruction sheet

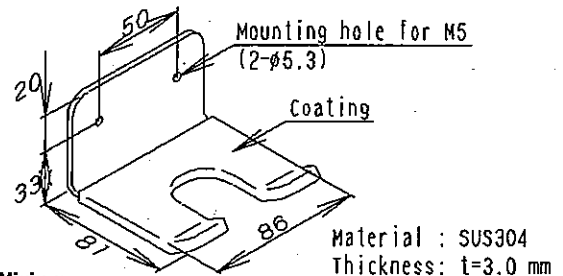


3. Dimensions (mm)



4. Option (separate order)

- Mounting bracket
Type No.: HE9Z-GH1
(for hanging the grip-switch housing)



5. Applicable Switches

- HE5B enabling switch (IP65 type)

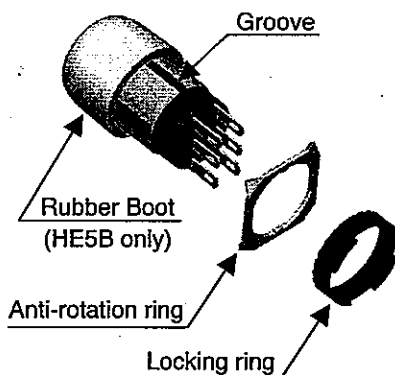
The following switches (not enabling switches) can also be used with the HE9Z-GSH51 grip-switch housing for a hand-held switch.

- AB6M Pushbutton Switch (IP65 type)
- AS6M Selector Switch (IP65 type)
- AS6M Key Selector Switch (IP65 type)

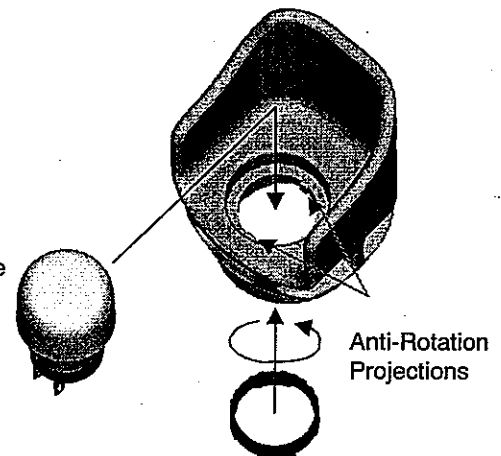
7. Assembling

Assemble the switch and the HE9Z-GSH51 housing according to the following instructions (1) to (5).

- (1) Remove the anti-rotation ring and locking ring from the switch.

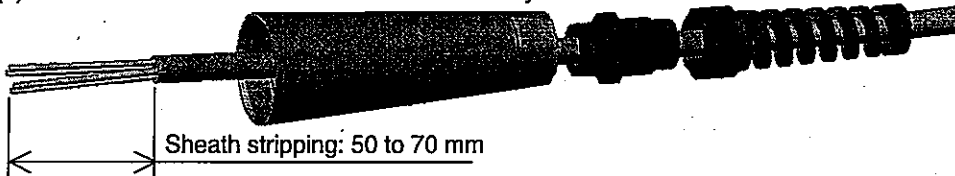


- (2) Insert the switch into the head housing, and tighten using the locking ring

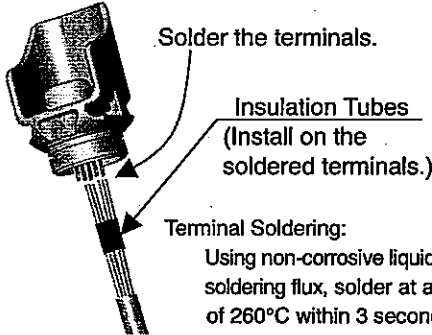


- Note 1: The head housing has anti-rotation projections. When assembling, align the grooves on the switch with the projections.
- Note 2: Anti-rotation ring is not necessary when installing the switch on the grip-switch housing.
- Note 3: Recommended tightening torque of the locking ring:
HE5B enabling switch: 0.29 to 0.49 N·m
Other switches: 0.68 to 0.88 N·m
Tighten the locking ring using the ring wrench (Type No.: MT-001).

(3) Insert the cable into the connector and the body.



(4) First, install the insulation tubes on wires, and solder the terminals. Then, install the insulation tubes on the soldered terminals.



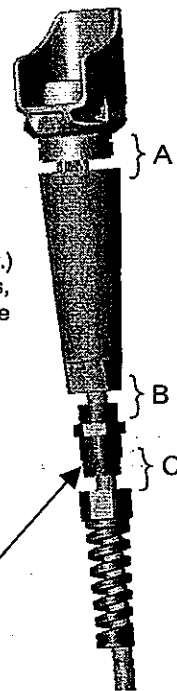
(5) Tighten the housings in the order of A→B→C.

Recommended tightening torque: (See the figure on the right.)

A: 1.0 ± 0.2 N·m Note: When using other connectors, refer to the tightening torque of the connector.
B: 3.0 ± 0.3 N·m
C: 3.0 ± 0.3 N·m

Note: Do not twist or pull the cable with an excessive force, otherwise the switch may be damaged. The water-proof gasket in the connector, when tightened on a cable of $\phi 7$ mm and larger diameter, prevents the cable inside the connector from being pulled out, protecting the switch. Taking the anti-pulling measure shown below is recommended for cables of less than $\phi 7$ mm diameter.

Water-proof Gasket



8. Disassembling

Turn off the power before starting disassembling. Unscrew the switch and housing in the order of C → B → A (see the figure on the right). Because the water-proof gasket tightens the cable, carefully pull out the gasket using pincers, so that unscrewing the part B does not cause the cable to twist, damaging the switch. When reassembling, make sure that the water-proof gasket is installed in place.

9. Specifications and Rating

Applicable Standards	IEC60529, EN60529, UL50 (UL recognition)
Operating Temperature	-25 to +60°C (no freezing)
Pollution Degree	3
Electric Shock Protection	Class II (IEC61140) (when using the HE5B- M2P*)
Degree of Protection	IP65 (when using the HE5B- M2P*) NEMA Type 4X Indoor use only (when using the HE5B- M2P*)

Note: Specifications and ratings depend on the switch.

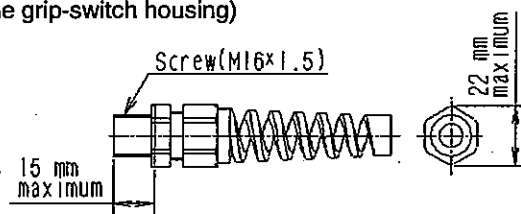
10. Connector (one connector is supplied with the grip-switch housing)

Recommended Connector Type:

SKINTOP-BS-M16×1.5
(LAPP, Germany)

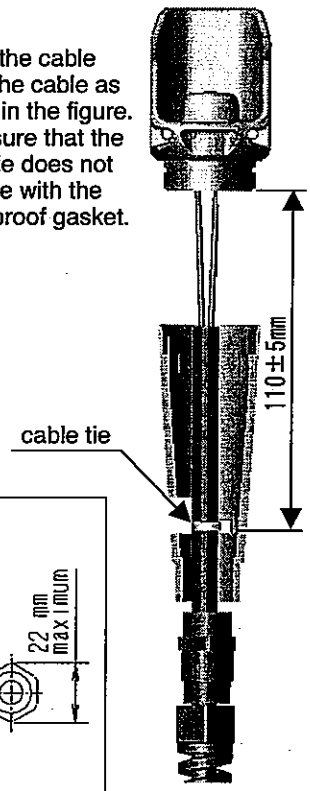
When using other connectors:

- Dimensions . . . See the figure on the right.
- Degree of Protection: IP65 or higher



* For cable of less than $\phi 7$ mm diameter

Note: Install the cable tie on the cable as shown in the figure. Make sure that the cable tie does not interfere with the water-proof gasket.



Precautions for Operation

- Use the applicable switches only. Usage of unauthorized switches is not included in the warranty.
- Follow the instruction of this sheet when assembling the housing and switch.
- When assembling and disassembling, unscrew the housing in the specified order. Otherwise the wire and switch may be damaged.
- When assembling and disassembling, make sure that no parts are damaged, and that no foreign object enters inside.
- Do not disassemble the housing during operation.
- Do not twist or pull the cable with an excessive force, otherwise the wire and switch may be damaged.
- Do not apply an excessive shock such as by dropping. When an excessive shock has been applied, confirm normal operation before usage.
- When assembling, make sure that no foreign objects enter inside.
- Do not maintain the HE5B constantly in the enabling position by taping down the button part or by other means.
- Do not remove the rubber boot from the HE5B or apply a strong force on the rubber boot in an unintended direction. Otherwise waterproof performance may be impaired.