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INSTRUCTION MANUAL

ELECTRODE TYPE LEVEL SWITCH

HE Series



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You should be well-informed of the contents where **WARNING** is marked before carrying out the work.



You should be careful where **CAUTION** is marked to carry out the work.

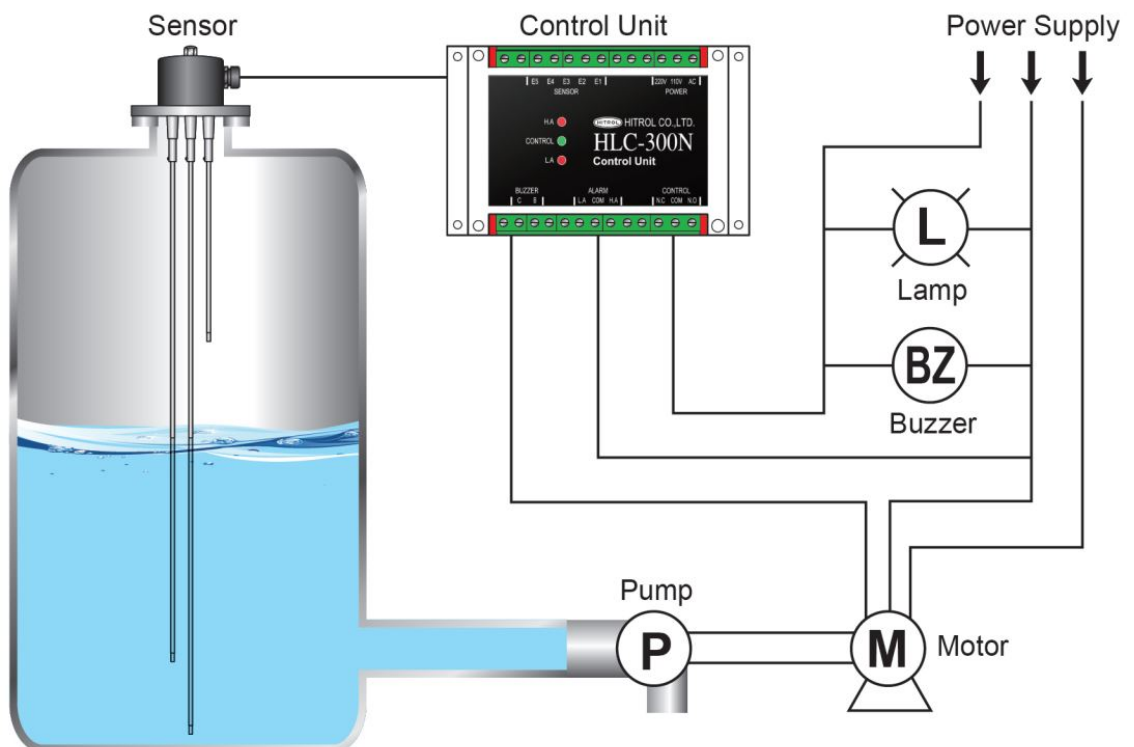


You should be aware of where **NOTICE** is marked to carry out the work.

Overview The HE-Series is suitable for controlling various liquid levels at industrial sites, including water treatment facilities, and an electrode bar is installed at the set height to detect electrical signals when the measurements come into contact with each other to determine the height of the measurements.

- Characteristics**
- It can be used for a variety of conductive liquids.
 - It's affordable.
 - Measurement reliability is high.
 - The structure is simple and easy to install.
 - It has no movable part, so it can be used semi-permanently.

Operation Principle A minute current is supplied to each electrode bar installed in the tank, and the current flows when the conductive measurement reaches the electrode bar. The control unit detects this current signal and outputs a contact signal.



Specification

Sensor

Model	HE-3/4/5S	HE-3/4/5V	HE-1S
Installation	Top Mounting		
Electrode Material	SUS316L + PP		SUS316L + Teflon
Enclosure	Weather-proof (IP54)		Weather-proof (IP65)
Process Pressure	ATM		10kgf/cm ² (Max. 20kgf/cm ²)
Process Temperature	60°C		80°C (Max. 150°C)
Process Connection	PF 2" Screw	100A JIS 10K	PT 1" Screw
Connection Material	Bakelite	PVC	SUS316L
Head Material	Bakelite	SUS304	ALC
Cable Entry	Ø7mm	20A Cable Connector	PF 3/4"(F)

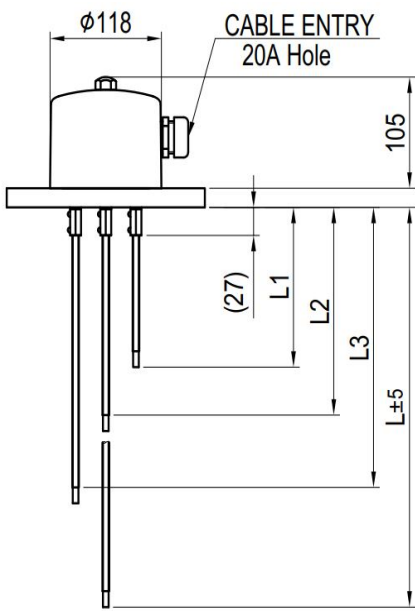
Model	HE-3/4/5H	HE-3/4/5H-S	HE-3/4/5H-SP
Installation	Top Mounting		
Electrode Material	SUS316L + Teflon	SUS316L + Ceramic	
Enclosure	Weather-proof (IP65)		
Process Pressure	Max. 10kgf/cm ²	10kgf/cm ² (Max. 20kgf/cm ²)	
Process Temperature	80°C (Max. 150°C)	250°C (Max. 350°C)	250°C (Max. 450°C)
Process Connection	PT 2" Screw	100A JIS 10K RF	
Connection Material	SUS304		
Head Material	Aluminum		
Cable Entry	PF 3/4"(F)		

Control Unit

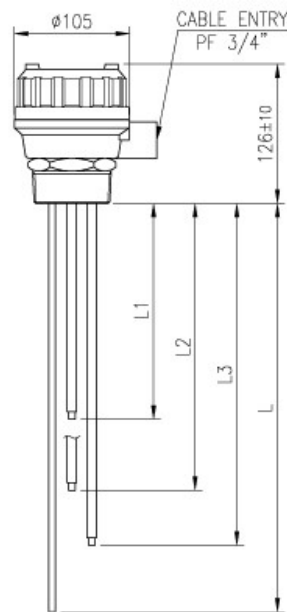
Model	HLC-200A	HLC-300N	HLC-400
Installation	Panel Inside Mounting		
Power Source	AC 110V or AC 220V @ 50/60Hz	AC 110V/220V @ 50/60Hz	AC 110V/220V @ 50/60Hz
Contact Form	1-SPDT	1-SPDT / 2-DPST	4-SPDT
Function	Control or Alarm	Control + 2-Alarms	4-Alarms
Contact Rating	AC 250V, 5A / DC 30V, 1A	AC 250V, 5A / DC 30V, 5A	AC 250V, 10A / DC 30V, 10A

HE-Series is recommended for use with our Control Unit .

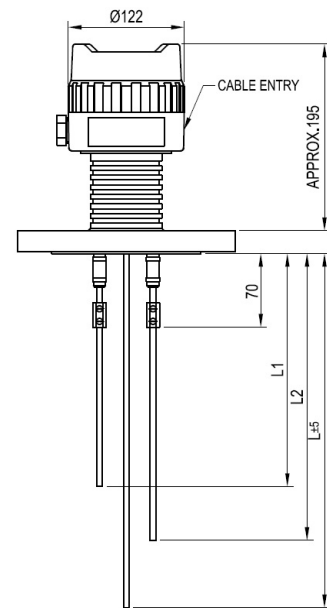
Dimensions



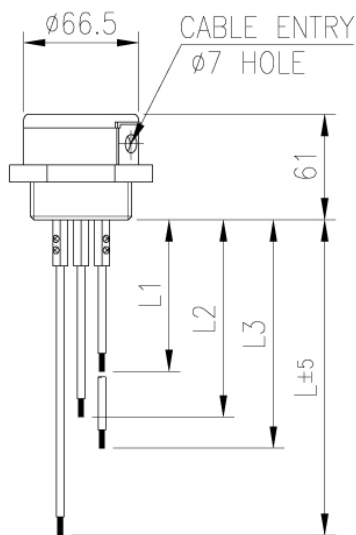
HE- V



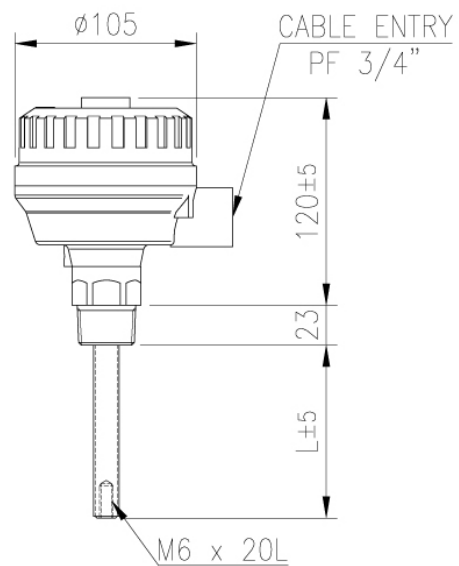
HE- H



HE- H-S / HE- H-SP



HE- S



HE- 1S

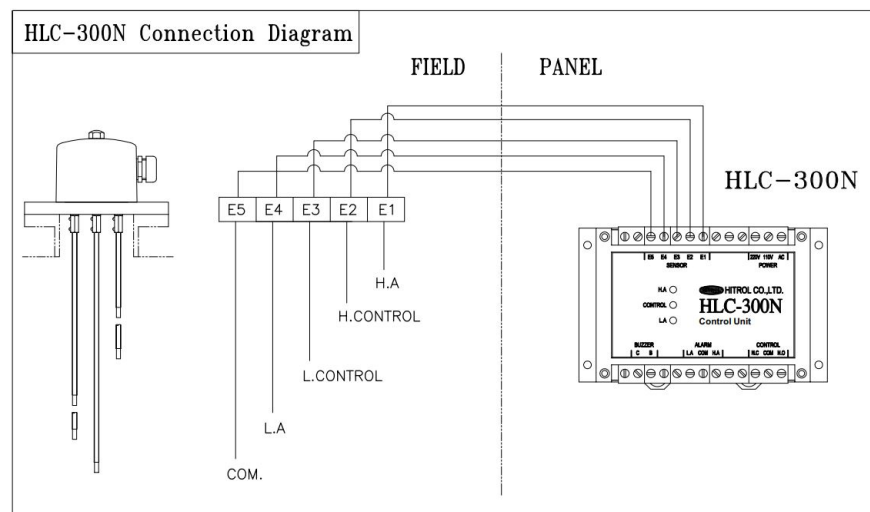
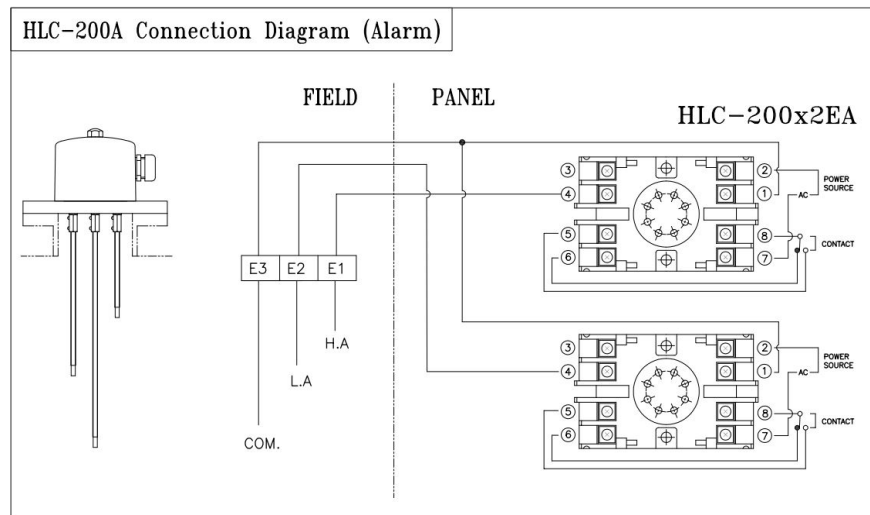
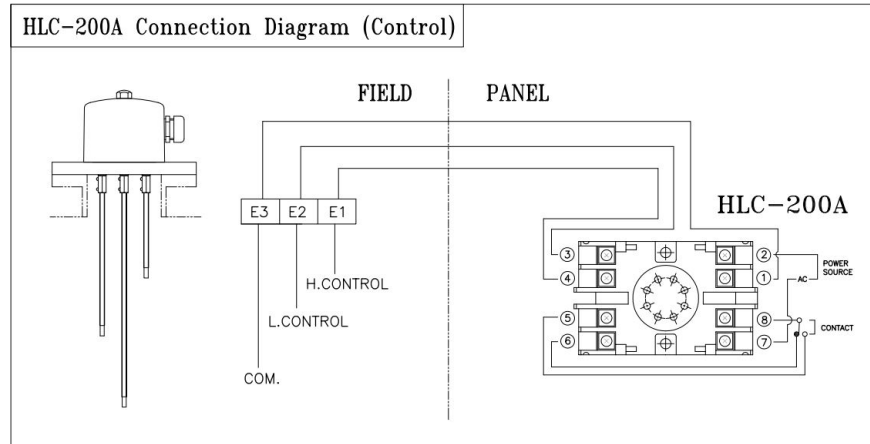


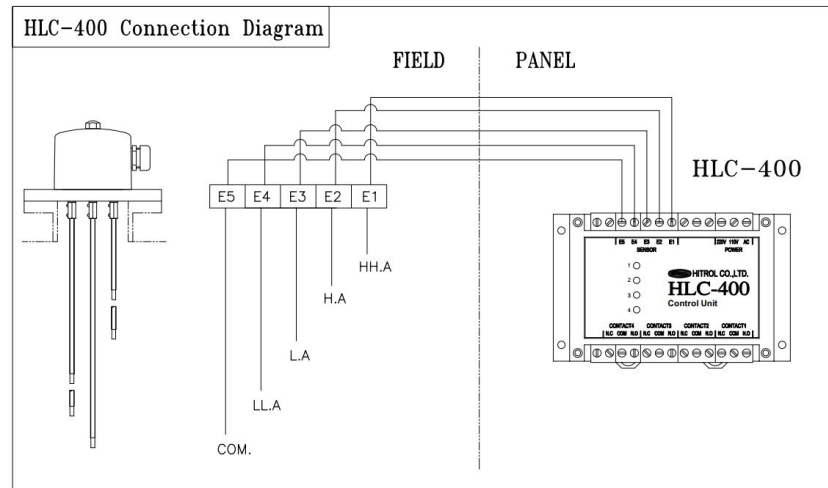
There may be some tolerance with the actual product.

Wiring

■ Default Configuration

- Open the product COVER and insert the CABLE through the wire inlet.
- Cables at desired contacts (E1, E2...) and finish.
- Please refer to the picture below for the connection with the control unit .





Maintenance HE-Series does not require special maintenance because it does not have a drive unit. However, the sensor should be used to prevent foreign substances, and the user should maintain it through periodic inspections at least once a year. In addition, parts that can be visually identified include leakage of contact surfaces, and the life of the product may change partially depending on the environment in which it is used.



During maintenance, the product should be fully powered off and inspected.

**Precaution
for
Installation**

- The flange or screw engagement should be of the same specification.
- The user shall fasten the washer between the bolts and nuts to prevent loosening.
- Gaskets must be used to engage flanges and flanges.

(Gaskets are selected in consideration of the temperature of the contents and the pressure of the container)



Do not impact the product when moving and transporting the product.

**Precaution
for
Removal**

- The presence and level of measurements in the container should be checked before separating.
- If it is for high temperature, it may burn, so it should be separated using gloves.
- Demolition work should be done with the power off.
- Be careful not to damage the O-ring or gasket when opening and closing the COVER of the product.

Safety and Environment

- Precautions during use
 - When fastening a product to a container, it must be fastened to ensure maximum bonding with a tool or the like.
 - It should not have a big impact on the product.
- Precautions for product run-off
 - The connection shall be made to the appropriate terminal for the location of the contact. (See Line Method)
- disposal of products
 - When disposing of the product because it cannot be used, the terminal block and the body in the product housing

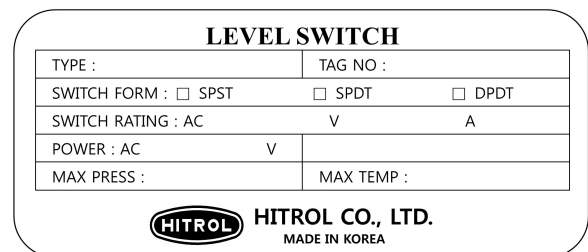
You can separate and dispose of the part.

Marking

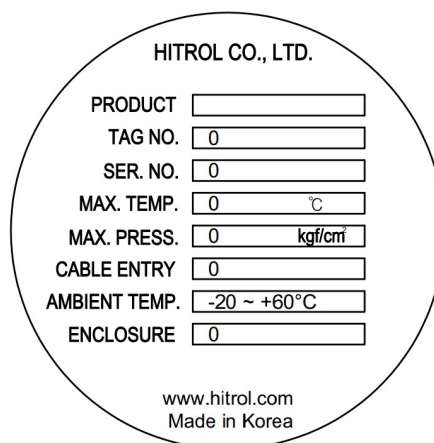
- Show product awareness
 - The product recognition mark is attached to the top and side of the product housing, and the model name, serial number, usage temperature, usage pressure, and output of the product are displayed. The serial number is the manufacturing unique number that distinguishes the product. (The HE-S Series only
- he top of the housing and the serial number on



HE- H Series Nameplate



HE- V Series Sticker



HE- H-S/SP Series Nameplate

User Training The fluid temperature of the container using the product must be well-acquainted with the product specifications and applied. It should not be used in non-conductive liquids (e.g., pure water) or in tanks where steam is generated.

Warranty and Contact ■ **Warranty and Service**

The warranty period for this product is two years after the product is shipped, and in case of failure in normal use, free service is available. If the product is not broken, requesting service may result in charges regardless of the warranty period. You can apply for aftersales service through the website or the headquarters.

■ **Contact**

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