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INSTRUCTION MANUAL

FLOAT TYPE LEVEL SWITCH

CS-1000






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WARNING You should be well-informed of the contents where **WARNING** is marked before carrying out the work.
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CAUTION You should be careful where **CAUTION** is marked to carry out the work.
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NOTICE You should be aware of where **NOTICE** is marked to carry out the work.

Overview The CS-1000 is a detector with a contact signal of ON/OFF by detecting the water level inside the tank with FLOAT TYPE LEVEL SWITCH and is used in the process of performing alarm and control functions during water supply or drainage.

This detector has the advantage of being sturdy in structure and long life due to the excellent reliability of the product.

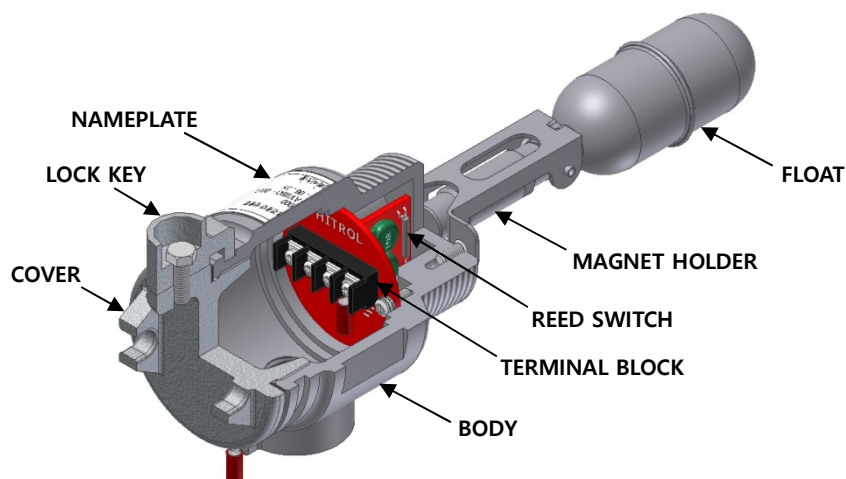
- Characteristics**
- Solid construction and mechanical drive free for semi-permanent use.
 - Explosion-proof construction
 - Length extension is possible according to TANK NOZZLE.

Operation The CS-1000 is installed on the side of the tank, and the output signal is generated when the FLOAT changes according to the change in the tank level.

Principle and

Product The contact point is divided into HIGH alarm and LOW alarm, and since it is 1-SPDT, the

Configuration user can apply the product by connecting to the process conditions.



Specification

Model	CS-1000 / CS-1000L (Extension)
Mounting	Screw or Flange
Ambient temperature	-20°C ~ +80°C
Process temperature	80°C
Process Pressure	Vacuum~ 20kg/cm ² (300#)
Output Signal	SPDT
Contact Rating	AC 140V, 1A / DC 150V, 1A
Enclosure	Ex-Proof (Ex d IIC T4, IP65)
Wetted Parts Material	Stainless Steel
Process Connection	PT 1-1/2"(M) Screw / 40A JIS 10K RF
Housing; Cable Entry	SCS 13; PF 1/2"(F)

Dimensions

	STD.	EXTENSION
S C R E W		
F L A N G E		



There may be some tolerance with the actual product.

Installation

The level switch has a type of screw (PT, NPT, PF, etc.) and a type of flange (ANSI, JIS, DIN, etc.), and the following must be noted when installing:

■ Tank Side (Horizontal) Installation

When installing the product, the correct level should be maintained, and the FLOAT should be installed in the correct direction to operate up and down. Also, the wire inlet should be facing down.

If the inlet, which is a wire, is facing in a direction other than the direction below, the installation is not correct.

■ Install tank top (vertical)

This product cannot be installed vertically.

Precaution for Installation

- The wire inlet should be directed downward.

(If installed above, the FLOAT can be turned over, but it can leak through the wire pipe into the wire inlet.)

- It does not work during vertical installation.
- Screws and FLANGE must be fastened clearly to prevent leakage.



- Cable England, Blanking Element above certification level suitable for the highest temperature (80.1°C) of cable inlet shall be used.
- Heat resistant cables suitable for the highest temperature (80.1°C) at the cable inlet should be used.

- When installing the sensor, avoid shaking areas or obstacles.
- The temperature and pressure generated inside the tank must be checked to meet the specifications.
- The flange or screw engagement should be of the same specification.
- Gasket must be used for flange and flange engagement.

(The gasket should be selected by considering the temperature of the contents and the pressure of the container.)



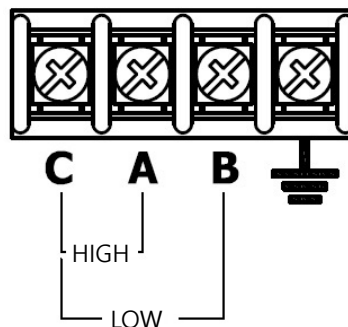
In the case of explosion-proof products, they must be installed

Wiring

- No connection should be made with power applied.
- This product basically provides SPDT and connects COM and N.O. terminals when using the upper limit (HIGH) contact, and COM and N.C. terminals when using the lower limit (LOW) contact.



In the case of explosion-proof products, power is applied after fastening



Failure Check and Maintenance

■ Product inspection

The main inspection parts of the level switch are in REED S/W and FLOAT, the life of the main parts depends on the user environment and can be used in optimum condition by periodic inspection. Therefore, the user should maintain it through periodic inspections at least once a year. The appearance of the product should be visually checked for damage, etc., and the appearance of the FLOAT should also be checked when used in a highly viscous fluid.

In addition, you can check the contact status by moving the FLOAT by hand after connecting to the terminal table using the tester.



During maintenance, the product should be checked with the power completely cut off.

In the explosion-proof area, it should not be disassembled when power is applied.

Precaution for Removal

- It should be separated after checking the water level and the presence of measurements in the tank.
- The product may overheat and burn, so it should be separated using gloves or the like.
- Explosion proof products must be disassembled and the cover opened when the cover is disassembled.



When moving and transporting the product, do not make a big impact on the product.



If an atmosphere of explosive gas and explosive dust is present, the cover of the product should not be opened.

Precaution for Using

- The user shall use the appropriate product after determining the explosion proof area of the relevant product.
- Do not bend or arbitrarily cut and extend the sensor, which is the measuring part.
- The power is applied after the installation is completed and the product is covered.
- It should not be used when the temperature range around the installation (-20°C to +80°C) is exceeded.

Precaution for External Wire Entry

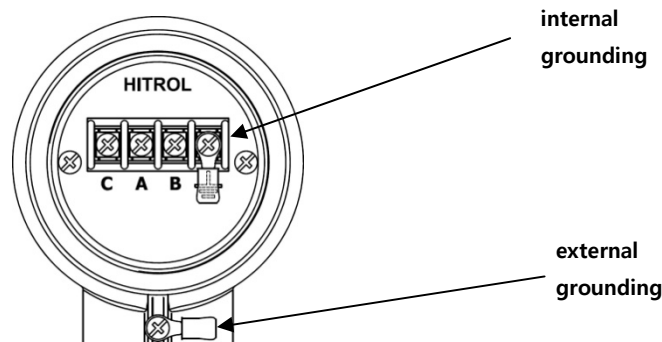
- The user shall use cable ground connection or metal tube wire-in to the wire inlet and use a product certified as having a performance equivalent to that of the explosion proof device when connecting with an external wire-in.

Precaution for Grounding

- The ground has an external ground and an internal ground. The grounding position shall be as follows and the size of the grounding wire shall be 4 mm² (4 mmSQ) when external grounding is connected. (The internal grounding will be connected to



The washer must be used when disconnecting and reconnecting the terminal lug to the internal ground terminal. (Prevention of Unleash)



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.
 - The lock must not be lost during use and must be fastened.
 - 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)
 - The power voltage of the instrument must be connected after checking the specifications, checking, and then turning it on.
 - There is a risk of an electric shock, so you have to be careful about your safety.

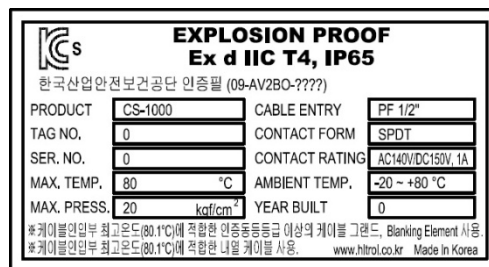
- disposal of products
 - When discarding because the product cannot be used, separate the metal and non-metal materials of the product and discard the terminals and body parts in the product housing. There are no accessories that affect the environment, so there is no need to be extra careful. (e.g. mercury switch)

Marking

- Show product awareness

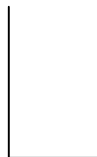
The product recognition mark is attached to the housing and displays the model name, serial number, temperature of use, pressure of use, output, etc. of the product.

The serial number is the manufacturing unique number that distinguishes the



Model notation The model configuration of the CS-1000 is as follows.

CS-1000-a



Not marked : General type

L : Extension type

User Training

Be familiar with the above and the measured fluid temperature of the container using the product must not exceed a maximum of 80°C. In addition, the ambient temperature of the housing should not exceed -20°C to +80°C. If an explosion-proof product is an explosion-proof product, never open the cover of the product during use. Explosion proof products are designed in accordance with Article 34 of the Occupational Safety and Health Act and



Non-explosion-proof products should not be applied to explosion-proof areas, and explosion-proof products may only be used in Type 1 and Type 2 places where explosive gas atmosphere exists. It must be installed in

Warranty and Contact

■ **Warranty**

- The warranty period for this product is two years after the product is shipped, and in case of failure that occurs under normal use, you can receive free service. 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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