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INSTRUCTION MANUAL

LEVEL CONTROLLER & ALARM UNIT

HLC-300N



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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

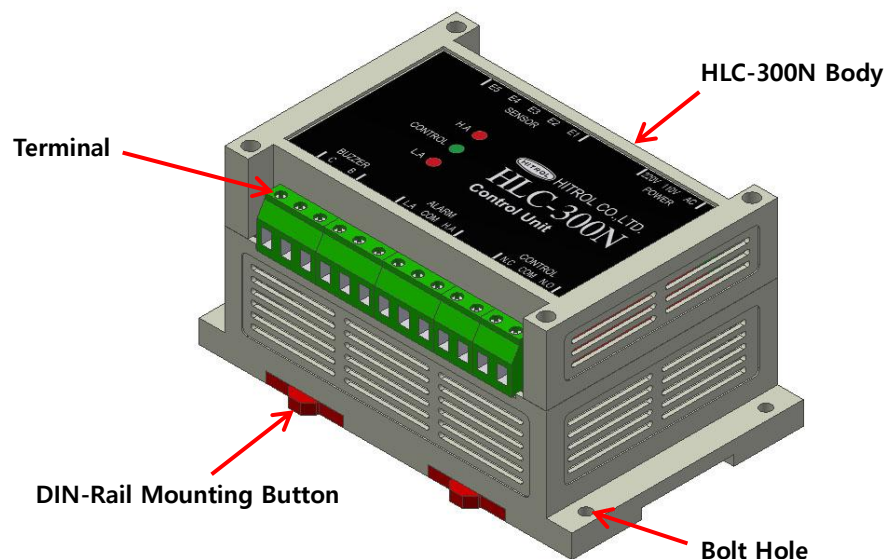
HLC-300N is a Level Control & Alarm Unit that controls and alarms by combining with the level sensor (HE, HQ, HR Type) of the storage of tank. The signal of the level sensor can control the upper and lower alarm of liquid and automatic supply of liquid through HLC-300N, and the product can be installed inside the control panel.

Characteristics

- Easy to install (DIN Rail Type)
- Compact size
- Operating can be checked through LED lamp (High Alarm & Low Alarm: Red, H-L Control: Green)

Operating**Principle and
Composition**

When the level sensor connected to HLC-300N detects a liquid in the tank, a leakage current flow and it is sensed by leakage current sensing circuit, and transistor is activated. Accordingly, relay contact is changed and it can be used for alarm and/or control signal.

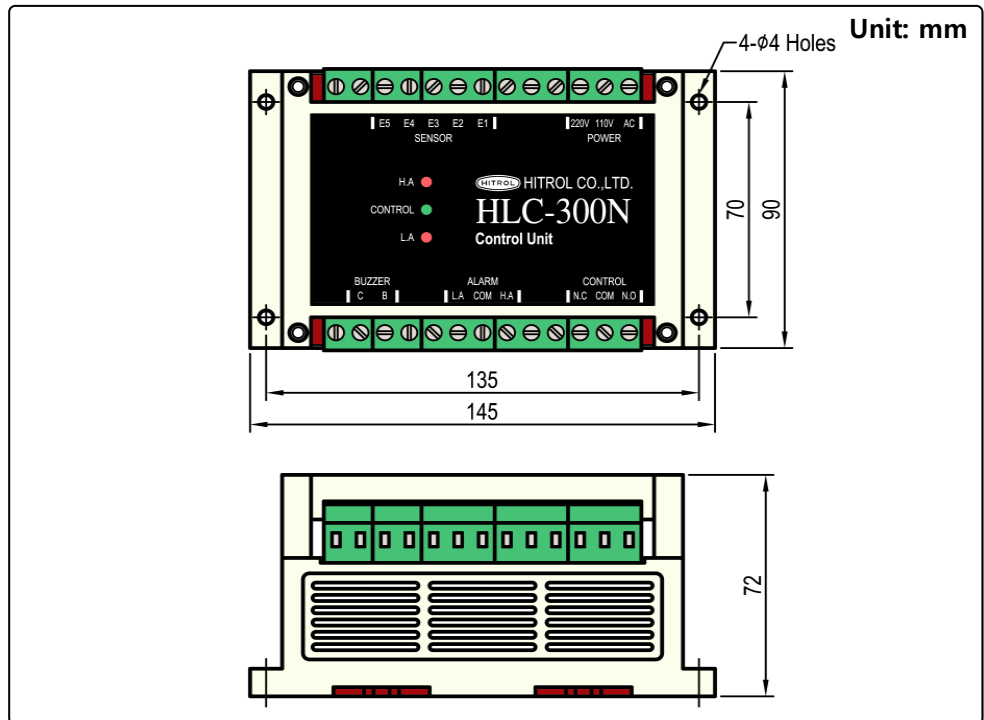


Specifications

General Spec.

Combination Unit	HE Series (Electrode) HQ Series (Quick Float) HR Series (Float Reed Switch)	
Mounting	Panel Inside (DIN Rail or Bolting)	
Power Source	AC 110V/220V @ 50/60Hz	
Standby Power Consumption	AC 110V @ 1.14W / AC 220V @ 1.1W	
Active Power Consumption	AC 110V @ 6.2W / AC 220V @ 7W	
Relay Contact	High Alarm & Buzzer	1-DPST
	Low Alarm & Buzzer	1-DPST
	Control	1-SPDT
Relay Contact Rated	AC 250V, 5A / DC 30V, 5A	
Transmit Signal	E5 (AC 14V @ 50/60 Hz)	
LED State	E1 (Red) : H.H Detection	
	E2-E3 (Green) : H-L Control	
	E4 (Red) : L.L Detection	
Cable & Distance	Def, 1.25 SQ @ Max. 300m	
Operating Temperature	-20°C ~ +60°C	
Housing Material	ABS	
Dimensions	145mm x 90mm x 72mm	
Weight	325g	

Dimensions

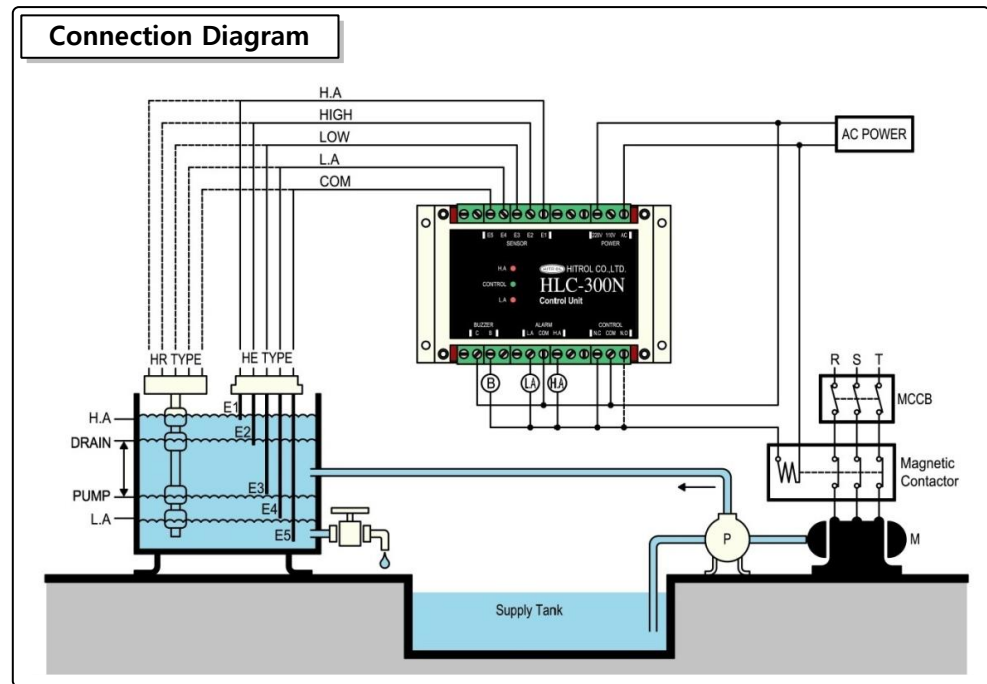


NOTICE

Actual product may have a tolerance slightly.

Wiring

Wiring shall be performed considering of below recommendation.



Control & Alarm	ALARM (BUZZER)	H-L CONTROL		ALARM (BUZZER)
	H.A	DRAIN	PUMP	L.A
LED Color	Red	Green	-	Red
Input	E1, E5	E2, E3, E5	E2, E3, E5	E4, E5
Output	H.A, COM (C, B)	N.O, COM	N.C, COM	L.A, COM (C, B)



It is normal that the L.A LED is light on when E4 is not wiring.

Precautions for Installation

- It is recommended to use washers to prevent a loosening when the product is fixed using bolts.
- Wiring shall be performed after checking of wiring diagram described in the manual or sticker.
- Make sure that the power source whether it is AC 110V or AC 220V.
- It is recommended to use AWG 13 or 14 cable between the controller and level sensor, and use shield cable in case that the distance between the controller and level sensor quite long (several hundred meters ~ 500m) and for low conductivity medium. (Non-recommendation cables may result in some differences in operating and level sensing distances.)
- Check the LED color after applying of power.
- Power shall be applied after completing of installation.



Remove it with the power disconnected.

Safety and Environment

■ Precautions for Use

- Do not disconnect the cable during use.
- Do not disconnect the product during use.
- Do not apply high impact to the product.

■ Precautions for Wiring

- Make sure to wire contacts correctly. (Refer to Wiring)
- Wire and supply the power to the product after checking the specifications.
- Incorrect power voltage may cause damage to the product.
- Pay attention to prevent electric shock.

■ Disposal of Product

- Make sure to separate the PCB and main unit from housing before disposing the products.
No part (ex. Mercury Switch) has influence on the environment, so no special attention is required.

Failure Check and Solution

■ Relay contact does not work

- Check whether the LED lamp is on/off.
- Check the cable connection.
- Check the input voltage.
- Check the level sensor wiring cable.

■ Controller is normal, but not working

1) Electrode Type Level Switch

- If there is foreign matter or sediment such as lime on the bottom of tank, it may cause malfunction.
- Too low liquid conductivity can cause malfunction. (ex. Distilled Water)
- When wiring between controller and electrode is far apart, it may cause malfunction.
- Please refer to the cable recommendations between the controller and the sensor for installation precautions (Page 5).

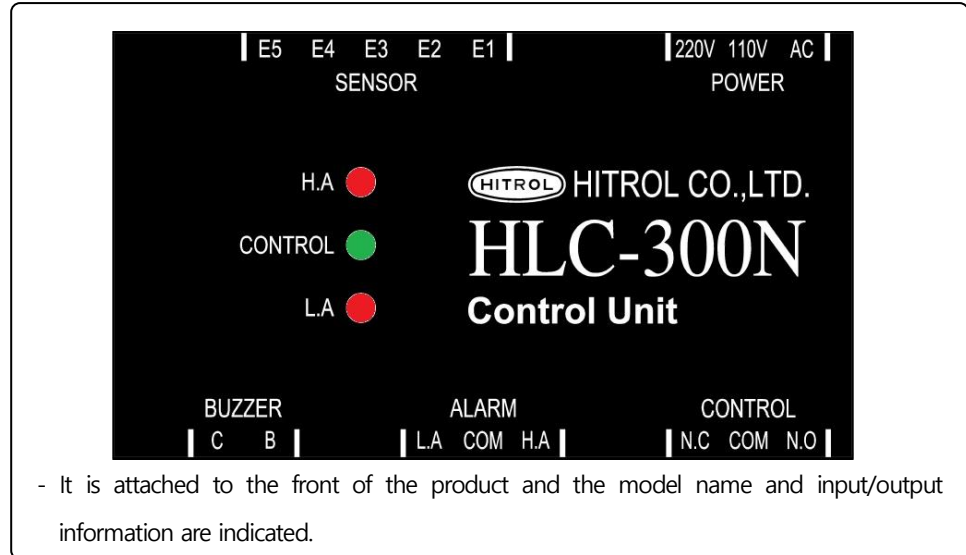
2) Float Type Level Switch

- Check that the float floats normally.
- Check the signal when the float operates normally.

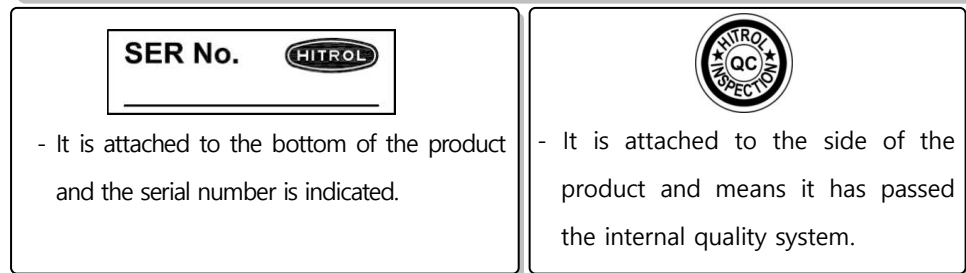
Marking

■ Product Identification

- The product identification mark is attached onto housing and shows the model name, serial number, and matters regarding input/output. The serial number is a unique manufacturing number for the identification of products.



- It is attached to the front of the product and the model name and input/output information are indicated.



- It is attached to the bottom of the product and the serial number is indicated.

- It is attached to the side of the product and means it has passed the internal quality system.

Warranty and Contact

■ Warranty and Service

This product is subject to the warranty for 2 years of shipment and unpaid service will be provided for any damage found under normal operating conditions. If it is not about the failure of product, the service charge will be payable.

You can request A/S at our website or by contacting our headquarters.

■ Headquarters . Factory . Laboratory Contact

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