Motor temperature · Leak detection monitoring Unit

User's Guide

Model : 153-EH

Contents

Summary

◆ Please read the manual before installation and use

1. This device detecting the temperature of the motor winding and bearing pump. It is used as the temperature sensing indicator to prevent damage to the motor in advance.

2. Underwater pump water leak sensor is installed inside the motor. So inside the pump detects water leakage(submerged) and prevent poor insulation of the motor.

3. 153-EH model retains the best features in the influence of the ambient outside Noise. It is designed to respond to industrial scene.

4. The temperature indicators, particularly using bright and vivid digital number display. At night has the advantage of being able to identify the temperature at a distance.

5. Switch Operation functions of the front section is operated by One-touch. Easy to set up and store with a beep.

6. Wiring connection terminals on the back of the assembly and disassembly as it is removable. The separation is easy and convenient for the A/S replacement.

7. The design of the unit is refined to promote the convenience of the user stable. And it is designed to be friendly.

Installation requirement

1. Power is available from AC110V ~ 220V without additional equipment.
   A noise prevention countermeasure of the power supply line is used for the primary or secondary of the isolation transformer or use the noise shielding transformer.

   *** * See wiring diagram * ***

2. In order to avoid ambient noise interference when installing Please keep about 30 ~ 50Cm distance from the high-frequency generating device.

3. The temperature sensor is composed of electronic circuits operating in a fine current.
   Therefore, if the high-voltage power lines are adjacent with a strong inductive mixing and impulse noise it will cause malfunction.
   When installing the sensor lines it must be separated from the power line, and if one is installed, the distance between the motor and Unit long-range sensor wire is good to use for shielding.

4. It is necessary to install a noise attenuator(Line filter) suitable for the field installation to reduce the noise mixing from the surrounding equipment.

5. Avoid high temperature (direct sunlight) and humid place (underground, sea breeze, rain) and dusty places when installing equipment, and carefully shock or vibrate.

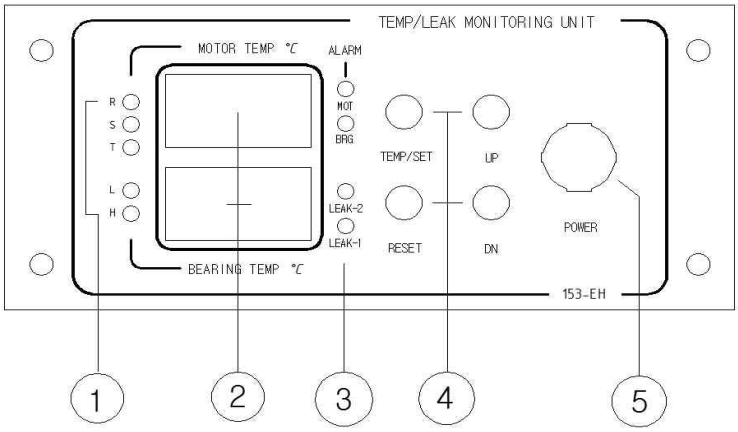
6. Please do not disassemble, change or arbitrary operation for the safety of the human body and the quality of the product.

7. If you have any questions during installation or use, please contact the manufacturer or the place of purchase.

Specifications

* Input Power : AC110V~220V(Free voltage) Error ±5%, Frequency 50/60Hz
* Power Consumption : Average 5W
* Motor Sensor : Pt100 (2-wire Ungrounded)
* Bearing Sensor : Pt100 (2-wire Ungrounded)
* Leak Sensor : 2-Electrode
* Current Output : 4mA(0℃) ~ 20mA(250℃)±1% Non insulated (PLC 250Ω)
* Alarm Output Display : Buzzer beep, Activity indicator
* Integrated Trip Output : Relay dry when alarm occur(1a),
  Temporary contact output
* Relay contacts to Capacity : AC250v-3a(max)
* Connection Terminal : 8pin(1) 6pin(1) 4pin(1) - Removable
* Display Temp Range : 0℃ - 280℃ ±1%
* Set Temp Range : Within 1℃ - 250℃
* Operating Temp : 0℃ ~ 40℃
* Humidity : 10% - 90% (Relative Humidity)
* Display Unit : Red 3-Digital Number indicator
* Display Functions-Motor : Setting Temp, Current Temp, Sensor open circuit, Short circuit
* Display Functions-Bearing : Setting Temp, Current Temp, Sensor open circuit, Short circuit
* Temperature sensing : Automated detection
* Alarm warning : Warning lamp operation
* Front panel size : (W)150mm, (H)67mm, (T)2mm.
* External appearance : (W)121mm, (H)61mm, (D)135.5mm(Include terminal)
* Panel Cutting : (W)122mm, (H)62mm
* Fix Unit : (W)135mm, (H)47mm (fixed hole) 5ø x 4Ea
* Quality of material : Front(Aluminum), Body(Steel)
* Weight : 0.85Kg

Designation (Front)



① Detection indicator : Temperature detection, position display setting

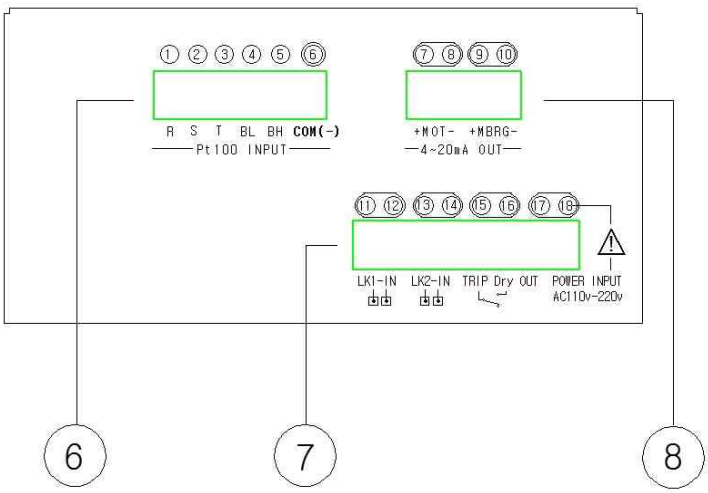
② Temperature indicator : Set temperature, Current temperature,
Sensor Open circuit / Short circuit

③ Alarm indicator : Motor, Bearing, Leak-1,2

④ Function switch : Set temperature, storage, Temperature Up/Down, Reset

⑤ Power switch : Operation power

Designation (Back)



⑥ Terminal : Pt100Ω sensor input

⑦ Terminal : Leak-1,2 input, Integral (Temperature , Leak) relay output

⑧ Terminal : 4-20mA Current output

Operation explanation

1. Fixed to the panel.
2. Connect the sensors and power wires to the rear terminal block by number.
3. Make sure that the terminal block or wiring does not change.
4. Check the input power(AC110V – 220V) and turn on power.
5. Turn the power switch.
6. The indicator will start after" **El–top/ CH-005/ ID-** " is displayed.

Temperature settings

1. Press the front temperature setting switch once to turn on the Motor(R) LED.
2. Press the Up/Down switch to set the desired temperature (1℃ - 250℃)
   * The temperature is basically be set to **100°C**.

   * Press the Up/Down switch once to change the temperature by **1℃**.
     and Press it continuously to change the number.

3. Motor temperature setting is complete, press the temperature setting switch again. Then Bearing(L) LED(green) illuminated and the temperature settings by pressing the Up/Down switch.
   * After the temperature setting is completed, press the temperature setting switch twice and the set temperature will be saved. Even if you do not press the switch, it will be saved automatically after about 2 seconds and the current temperature display will be displayed.

4. The temperature setting is completed, the temperature of the motor and detects the temperature bearing.

5. If an error occurs during operation, press the reset switch once for a long time, or restart the power switch.

Check the alarm status (Sensor, Temperature)

1. If the Pt100Ω sensor connection is open circuit, be marked with "**O P n**".
2. If the Pt100Ω sensor connection is short circuit, be marked with "**S h t**".
3. The indicator of the part where the alarm is generated is turned on and a beep tone sounds.
   * After 8~10 seconds, the trip relay operates and the motor is turned off.
   * The relay will automatically return when the alarm is released.
4. If the current temperature exceeds the set temperature, the alarm part indicator lights up and a beep tone sounds.
   * After 8~10 seconds, the trip relay operates and the motor is turned off.
   * The relay will automatically return when the alarm is released.

*** Caution ***

Depending on the application, connect a 100Ω resistor to the terminals that do not use the sensor. Doing so will not cause sensor alarms.

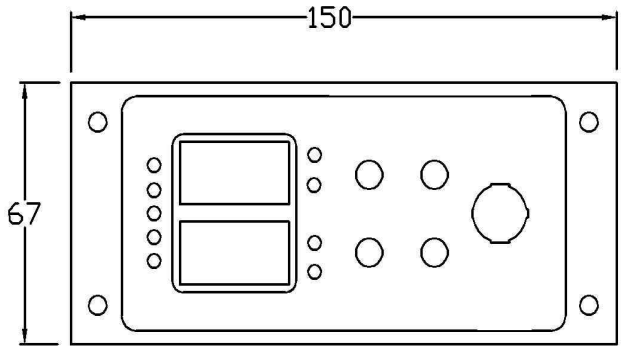
Check the alarm status (Water leakage)

1. The sensor detects the water leakage or immersion in the motor, and the water leakage indicator lights up after 3 seconds.
   If the alarm persists, after 5 seconds the trip relay operates and the motor is turned off.

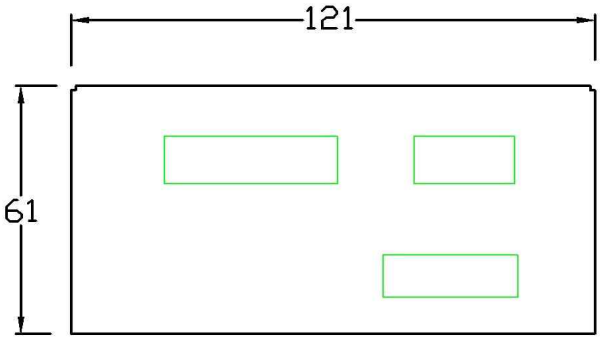
*** Failure to use the specified sensor may result in malfunction.**
Therefore, use a sensor that is compatible with the device.

2. Relay is activated when alarm occurs either temperature or leak alarm, and the relay will automatically return when the alarm is released.

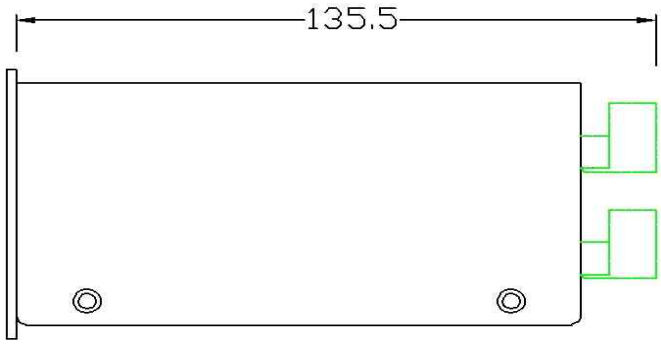
Product appearance drawings (Unit : mm)



Front

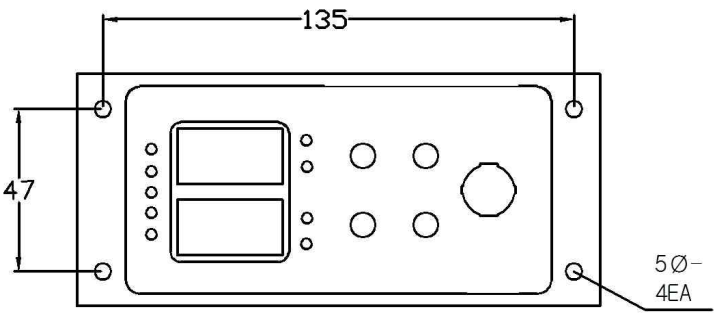


Back

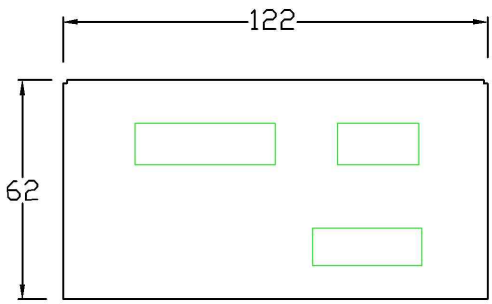


Side

Panel cutout drawing (Unit : mm)

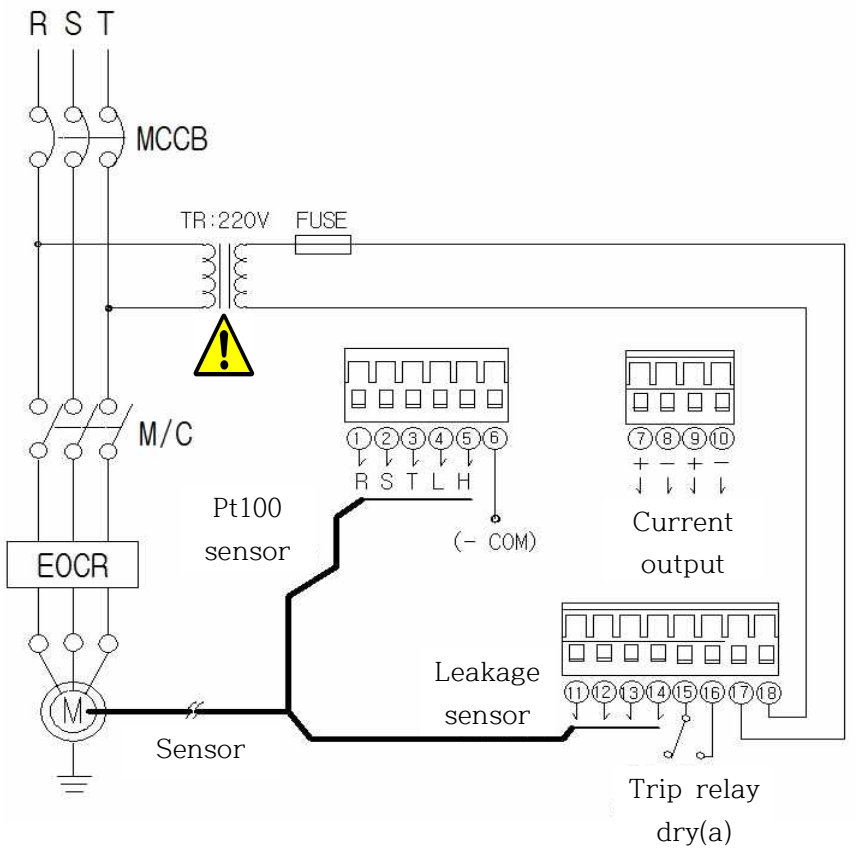


Front fixed hole



Body cutting

Wiring



Terminal number / Connection information

①⑥ - Motor (R) Pt100 sensor (2wire-ungrounded) input

②⑥ - Motor (S) Pt100 sensor (2wire-ungrounded) input

③⑥ - Motor (T) Pt100 sensor (2wire-ungrounded) input

④⑥ - Low-Bearing Pt100 sensor (2wire-ungrounded) input

⑤⑥ - High-Bearing Pt100 sensor (2wire-ungrounded) input

⑦⑧ - Motor current output (4mA~20mA)

⑨⑩ - Bearing current output (4mA~20mA)

⑪⑫⑬⑭ - Water leakage sensor input (normal open)

⑮⑯ - Integrated Trip relay dry (a)contact output

⑰⑱ - Input power AC 110V~220V, 50/60Hz

Warranty service

Thank you very much for choosing the Monitoring Unit

1. The service period is one year from the factory shipment date.

2. Free services are not available in the following cases.

   * Unauthorized dismantling and arbitrary manipulation.
   * Inundation and damage due to natural disaster.
   * Defects and damage caused by careless handling of user.
   * Overvoltage·Overcurrent contamination(lightning, surge, etc..)
   * Defects caused by improper installation and use.

3. Expiration of service period or cost of replacement of consumable parts.

4. The service guarantee is limited to the unit, and other items are not related to the manufacturer.