三盈 产业 集团 SANKI INDUSTRY GROUP
油气电加注整站设备制造商
Fuel, gas and charging stations integrated equipments manufacturer

永邦测控 WINDBELL M&C

WB-CLK200 Leak Alarm Controller

User Manual

V1.0 DECEMBER 2017

Contents

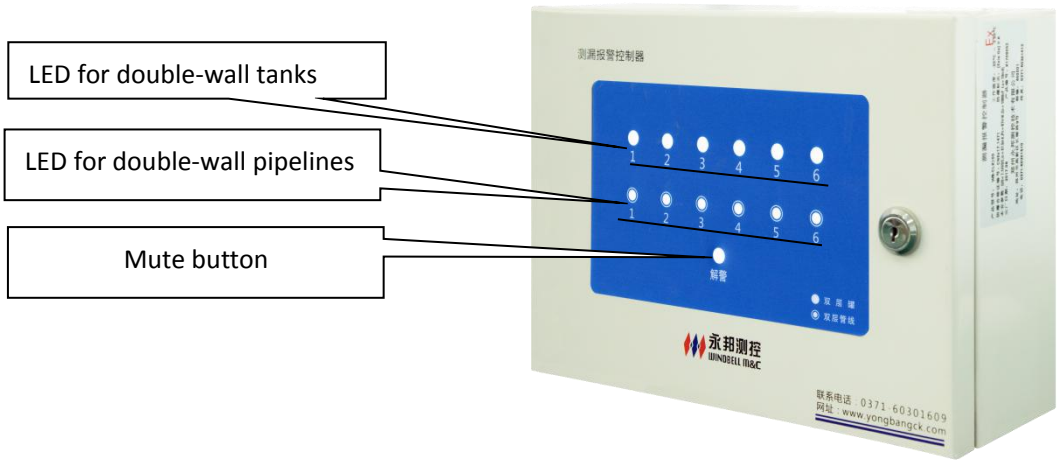
1. Product introduction

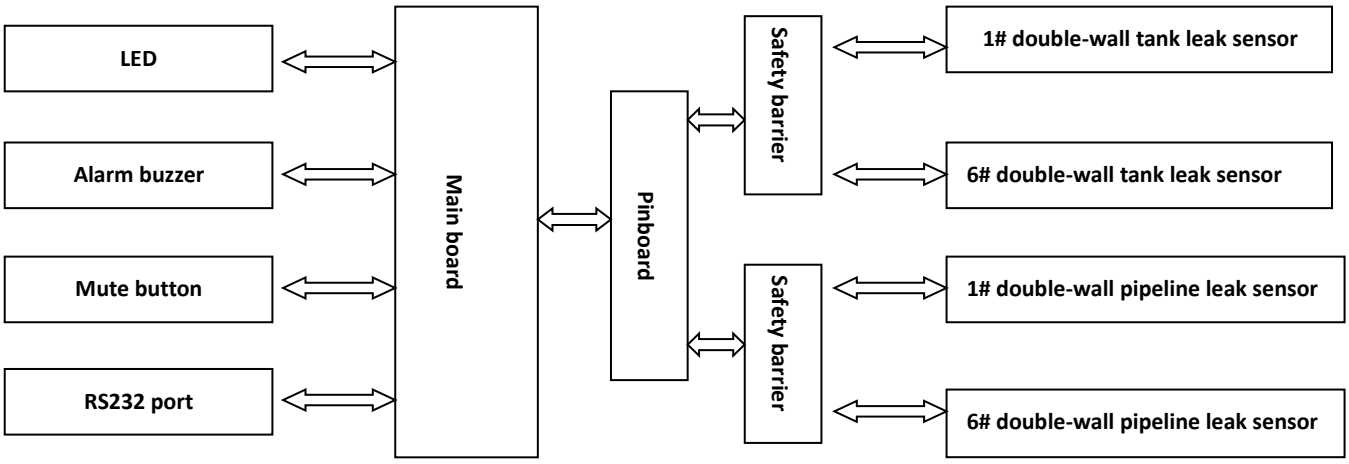
The leak monitoring system is mainly consisted of leak sensor, leak alarm controller and related accessories.

The system is specifically designed to monitor the leakage of fuel and water in the interlayer of double-wall tanks and double-wall pipelines, also have sound-light alarm function.

Once there is a leakage occurs in the interlayer, the sensor will detect the signal and convert it into an electrical signal for transmission to the leak alarm controller. According to the received signal, the leak alarm controller will give a corresponding LED lights and sound light alarm.

According to the alarm, user can make a timely response and take measures to avoid the occurrence of potential hazard and environmental pollution.





2. Product features

- Compact structure and artistic appearance.
- Easy to install and maintain.
- Explosion-proof design, safe and reliable.
- Can connect with 6 double-wall tank leak sensors and 6 double-wall pipeline leak sensors.
- Can connect with switch volume leak sensor or RS485 type leak sensor.
- Can identify fuel and water, then give corresponding alarm.
- Communication failure alarm function.
- Leak sensor fault alarm function.
- LED alarm prompt function.
- With mute button, can eliminate sound alarm when alarm occurs but do not affect light alarm.
- Can communicate with host computer, and display leak detection information on PC software.

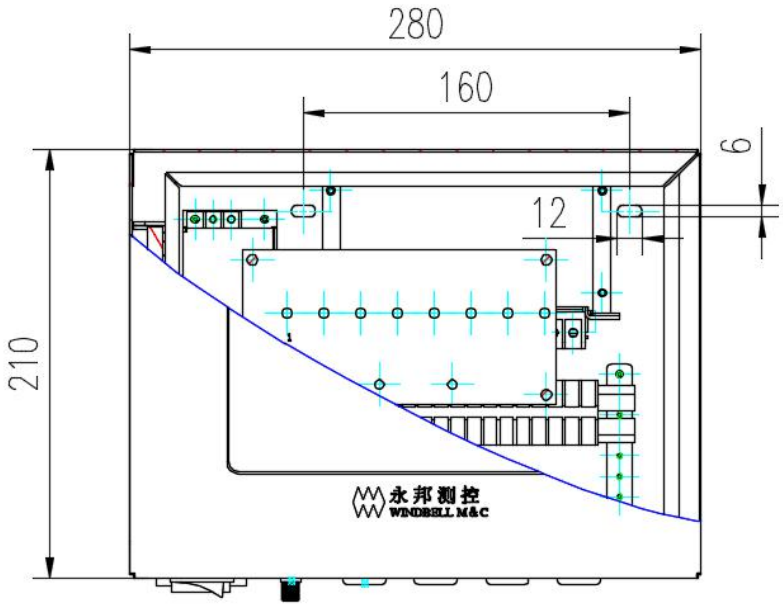
3. Technical parameters

- Power supply: AC220V, +10%, -15%
- Working temperature: -20℃～+60℃
- Relative humidity: 30%～90%
- Operating current: <35mA
- Response time: <2S
- Alarm mode: sound and light alarm
- Explosion-proof mark: [Exia Ga] Ⅱ B
- Overall dimension: 280*210*100mm
- Weight: 2.7kg

4. System installation

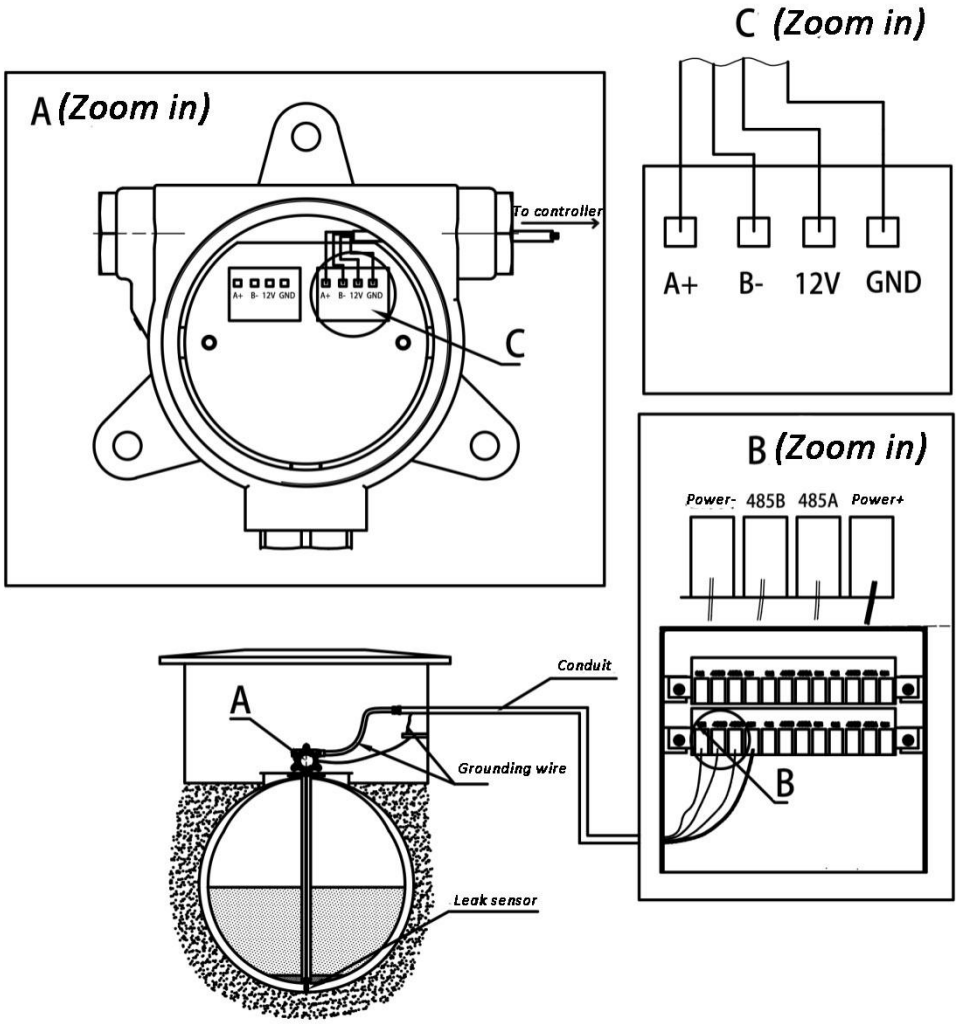
4.1 Installation of controller

- Look for convenient place on the wall in safe area (control room or office), to install the controller.
- According to the installation size, fix the controller reliably on the wall with expansion screws, and make sure the installation is stable and beautiful.
- The ground terminal of the controller shall be connected to ground reliably with more than 6 mm^2 multi-core flexible cables.
- Connect power line to AV220V power supply securely and reliably.

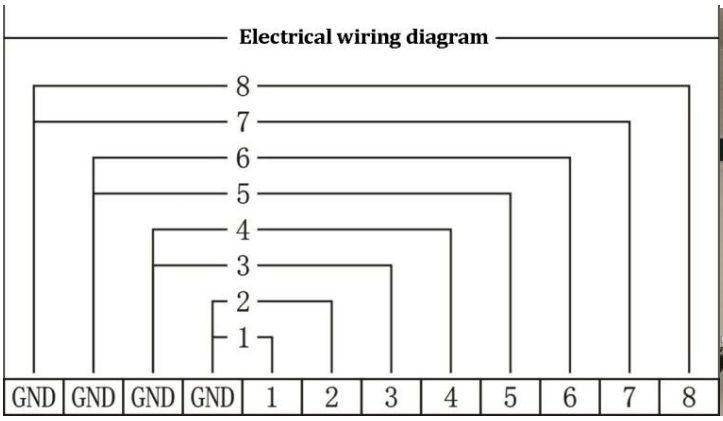


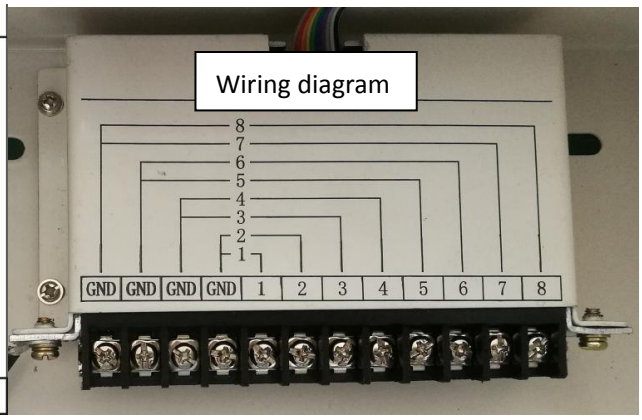
4.2 Electrical system wiring diagram

The cable of the leak sensor must correctly access to the corresponding terminals on the safety barrier of the controller, and make sure the safety barrier is connected to ground reliably.



WB-CLK200 wiring diagram





WB-CLK200-A wiring diagram

Notice of wiring:

- One safety barrier can connect with 6 sensors.
- Do the wiring according to the numeric order, from 1 to 6 (7 and 8 are invalid) , in sequence. 1 correspond to No. 1 sensor, 2 correspond to No. 2 sensor, 3 correspond to No. 4 sensor, ..., 6 correspond to No. 6sensor.
- Two sensors share one GND.

eg:

if have 1 sensor, shall connect with 1 (only with 1, not 2 or 3 or 4...) and GND; if have 2 sensors, one sensor can connect with 1 and GND, the other shall connect with 2(only with 2, not 3, or 4, or 5...) and GND.

4.3 Installation technical requirement

- Do the wiring correctly, make sure the connection is good.
- After wiring, tighten the cable lock to prevent cable from loosening.
- Each cable shall be provided with a unique identifier for identification, inspection and maintenance conveniently in the future.

5. Operation

5.1 Set the number of leak sensor

- Before starting the system, please set up the dial switch according to the number of leak sensors. For example, if one controller is connected to 4 leak sensors, we need to set up the dial switch according to No. 4 diagram, see figure 1 below.
- The default number of leak sensor is 1, and the default dial switch setting please see figure 2 below.

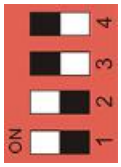


Figure 1

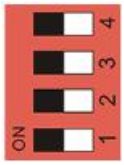
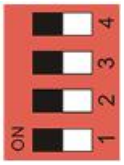


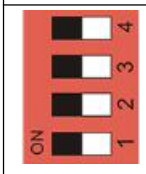
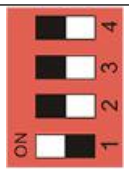
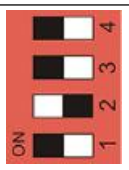
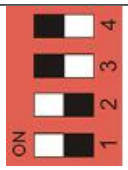
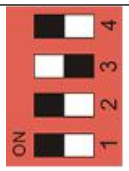
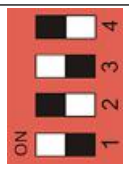
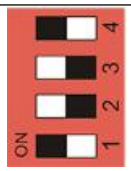
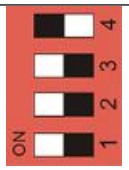
Figure 2

Operation instructions of dial switch



- ✧ In the dial switch, the white square button is the toggle part of the dial switch.
- ✧ In the dial switch, No.1,2, and 3 are the setting switches, No.4 is the spare switch, do not need to set for temporary.

Schematic diagram of dial switch setting

							
1 sensor	**2 sensors**	**3 sensors**	**4 sensors**	**5 sensors**	**6 sensors**	**7 sensors**	**8 sensors**

5.2 Monitoring status instruction

- **WB-CLK200 LED status description**

a. LED normally on a green light indicates that the corresponding leak sensor is working normally, no liquid leakage detected.

b. LED on a red flash indicates that the corresponding leak sensor has detected the leakage of fuel, and the buzzer will alarm.

c. LED on a green flash indicates that the corresponding leak sensor has detected the leakage of water, and the buzzer will alarm.

d. LED on a green and red alternating flash indicates that the communication between controller and sensor is interrupted, and the buzzer will alarm.

e. LED normally on a red light indicates that the corresponding leak sensor has a failure, and the buzzer will alarm.

- **WB-CLK200-A LED status description**

➢ LED normally on a green light indicates that the corresponding leak sensor is working normally, no liquid leakage detected.

➢ LED normally on a red light indicates that the corresponding leak sensor has detected the leakage of fuel.

5.3 Alarm instruction

Once leakage occurs, the buzzer will alarm; Click the mute button, the alarm sound will stop, but the color of the LED will keep until the leaked liquid is clear away and the leakage is blocked. If the status changes but leakage is still exist, the alarm sound will be active again.

6. Precautions for installation and use

- Make sure the shell of controller is grounded firmly.
- Connecting leak sensor according to the corresponding order of wiring interface.
- Before power on, make sure the connection is correct.
- Once product failure occurs, please contact with supplier, and do not repair without authorization, to prevent the occurrence of safety accidents.
- The installation shall be done by the unit who has already obtained the qualification to install, use and maintain the explosion-proof electrical equipment.
- The installation, use and maintenance of products shall strictly comply with the provisions of the product user manual and related standards, otherwise the consequences should be borne by themselves.

7. Common faults and troubleshooting methods

No.	Fault phenomenon	Possible reason	Solution
1	LED lights do not match actual sensor number	● Wrong configuration of sensor number	● Correctly configure the number of leak sensor
2	Communication interrupt	● Error sensor address setting ● Communication connection failure ● Safety barrier failure ● Leak sensor failure	● Set sensor address correctly ● Reconnect or replace the communication line ● Replace safety barrier ● Replace leak sensor
3	Unable to identify leak status	● Error sensor address setting ● Leak sensor failure	● Set sensor address correctly ● Replace leak sensor

8. Warranty and maintenance

- The warranty of the product is 12 months since installation or 18 months since B/L date which occur earlier.
- The product failure under normal working condition is guaranty.
- Damages caused by artificial and natural disasters are not covered by the warranty.
- Once product failure occurs, please contact with Windbell, and do not repair without authorization, to prevent the occurrence of safety accidents.
- If you cannot troubleshoot the failure at site, please also contact Windbell for further procedures.

WINDBELL

IS DEDICATED TO PROVIDING SOLUTIONS TO MONITOR AND MANAGE YOUR ASSETS IN REAL TIME

ZHENGZHOU WINDBELL MEASUREMENT AND CONTROL TECHNOLOGY CO., LTD

No.9 Changchun Road, High-tech Development Zone, Zhengzhou city,
Henan Province, P. R. China
P.C.:450001

www.windbellgauge.com

E-mail: sales@windbelltek.com

Office Tel: +86 371 6030 1609 Office Fax: +86 371 6030 1612
Cell & WhatsApp: 0086 137 8350 0071 / 0086 158 3716 0322

V1.0 DECEMBER 2017