

THRU-WALL SINGLE LEVEL SENSOR DIRECTIONS

穿牆式單液位感測器說明書

TYPE SPECIFICATION

Lo level with signal output and alarm
Hi level with signal output and alarm

CS093-2-L
CS093-2-H

FEATURES

1. This is a capacitive sensor, Microcontroller Unit detects different dielectric constant of the non-conductive glass or plastic vessel and liquid, on which taking its change of capacitance to position the Hi-Low liquid level.
2. Pressing housing to set the liquid level.
3. Alarm & Color the liquid level.



型號規格

低液位信號輸出與警報
高液位信號輸出與警報

特點

1. 這是一種電容式感測器，微控制器檢測不同介電常數之玻璃、塑膠等非導電容器和液體，取其電容變化而將高低液位定位。
2. 按壓外殼即可設定液位。
3. 警報和顏色指示液位。

TECHNICAL SPECIFICATIONS

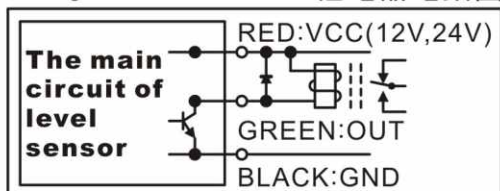
Dimensions (LxWxH)	35.3x17.9x64.6mm	尺寸(長X寬X高)
Supply voltage	7~24VDC	供電電源
Current supply (Enable alarm)	max 90mA	電流供應(警報器動作)
Switching current	3.3~40mA	開關電流
Maximum switching frequency	1Hz	最大開關頻率
Ambient temperature range	-15~+60°C	環境溫度
Thickness of the vessel wall	2~15mm	容器厚度
Protection class (IP67 be available)	IP 64	防護等級(IP 67可供應)

規格

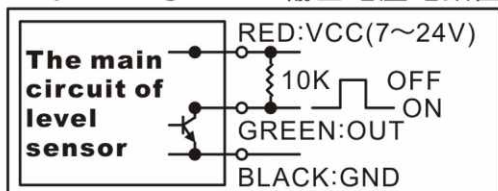
ELECTRICAL CONNECTION

Relay circuit

繼電器電路圖

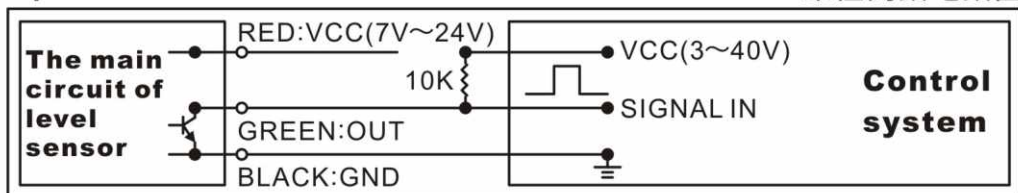


Output voltage circuit 輸出電壓電路圖



Open collector circuit

集極開路電路圖



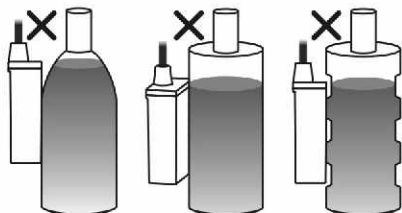


INSTALLATION

1. Fix the sensor onto a flat surface of glass or plastic vessel.
2. Attachment is done by hook and loop fasteners.
3. Thickness of the vessel wall can be 2~15mm.
4. Fix the sensor onto a pipe or bend vessel of nonconductive.
5. Attachment is done first by hook and loop fasteners, then tied by plastic straps.
6. Thickness of a pipe or bend vessel can be 2 ~15 mm.

安 裝

1. 將感測器安裝在平整的玻璃或塑膠容器外壁。
2. 附著是由粘扣帶粘接完成。
3. 容器壁厚可以2~15毫米。
4. 將感測器安裝在在非導電性的管道或彎形容器上。
5. 附著是先由粘扣帶粘接完成後，再用塑膠繫線帶綁緊。
6. 管道或彎形容器壁厚可以2~15毫米。



Note :

The contact surface is not irregularities.

註：

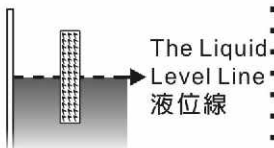
接觸面不能凹凸不平。

LIQUID LEVEL SETTING

- **Type CS093-2-L (low liquid level with signal output and alarm) be set low level steps as follow :**

設定液位

- **型號CS093-2-L (低液位信號輸出與警報) 設定低液位步驟如下：**



1. A touch fasteners offered the hooks be attached onto a position which be set about the liquid level line of vessel.

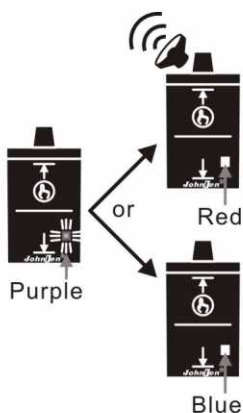
1. 將有鉤面的粘扣帶貼於容器之液位線大約位置。

2. A touch fasteners offered the loops be attached onto the back of sensor.

2. 將有毛面的粘扣帶貼於感測器的背面。

3. The liquid level line of sensor aim at the liquid level line of vessel and press hook-and-loop together.

3. 將感測器之液位線對準容器之液位線並將粘扣帶鉤面與毛面壓合。



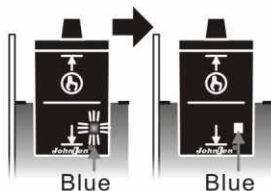
4. The sensor be enabled, the LED flashes with purple color 8 times, then it skip to red color and beep twice or to blue color but not sound.

4. 將感測器通電，LED 閃爍紫色8次後跳至紅色且響聲2次或跳至藍色但不會響聲。



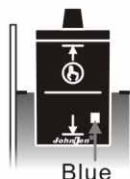
5. Press button about 2 seconds, then LED flashes with blue color.

5. 按 鍵約2秒後LED 會閃爍藍色。



6. Left button, the LED flashes with blue color about 10 times, then skip to blue color.

6. 離開 鍵LED會閃爍藍色約10次後跳至藍色。



7. LED skip to blue color, it means that the low liquid level line be set completely.

7. LED跳至藍色，表示低液位線設定完成。

8. Design the low liquid level position of liquid.

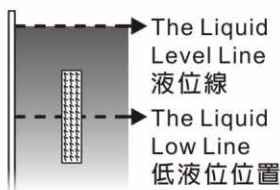
8. 設定液體的低液位位置。

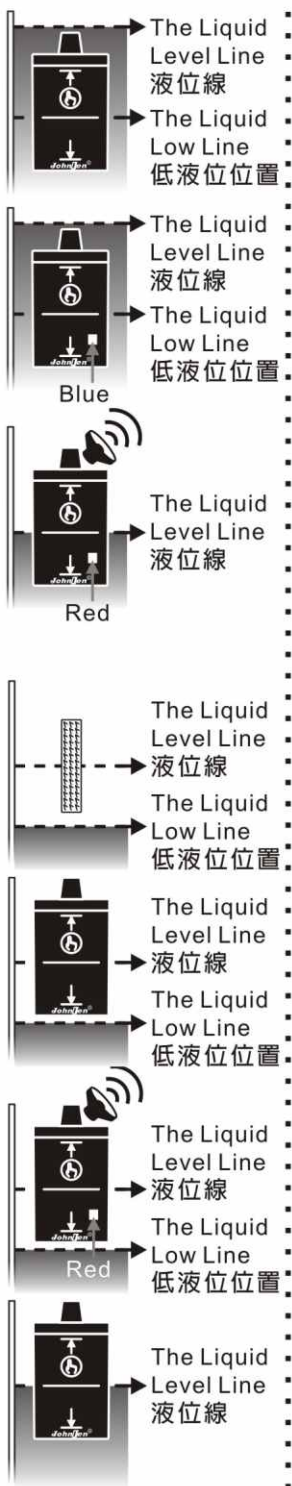
A. The low liquid level position be set below the liquid level line of vessel.

A. 低液位的位置設定在容器之液位線下。

- a. The hooks of touch fasteners be attached onto a position which be set about the low liquid level.

- a. 將粘扣帶的鉤面貼於被設定為低液位的大約位置。





b. The liquid level line of sensor aim at the low liquid level and press hook-and-loop together.

b. 將感測器之液位線對準低液位並將粘扣帶鉤面與毛面壓合。

c. The low liquid level be positioned, then the LED skip to blue color.

c. 低液位定位完成後LED跳至藍色。

d. The LED skip to red color with signal output and alarm when the liquid level drops to the liquid level line of sensor.

d. 液位下降到感測器之液位線時LED跳至紅色並且信號輸出與警報。

B. The low liquid level position be set above the liquid level line of vessel.

B. 低液位的位置設定在容器之液位線上。

a. The hooks of touch fasteners be attached onto a position which be set about the low liquid level.

a. 將粘扣帶的鉤面貼於被設定為低液位的大約位置。

b. The liquid level line of sensor aim at the low liquid level and press hook-and-loop together.

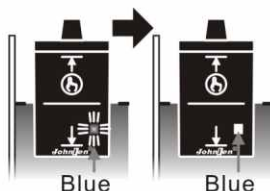
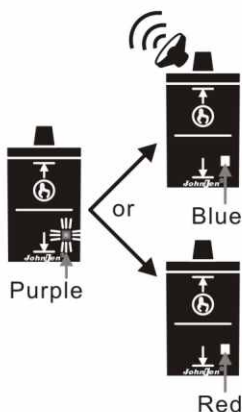
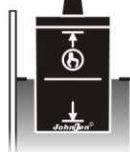
b. 將感測器之液位線對準低液位並將粘扣帶鉤面與毛面壓合。

c. The low liquid level be positioned, then the LED skip to red color with signal output and alarm.

c. 低液位定位完成後LED跳至紅色並且信號輸出與警報。

d. The LED skip to blue color and stop signal output and alarm when the liquid level rises up the liquid level line of sensor.

d. 液位上升到感測器之液位線時LED跳至藍色並且停止信號輸出與警報。



● **Type CS093-2-H(high liquid level with signal output and alarm) be set high level steps as follow :**

1. A touch fasteners offered the hooks be attached onto a position which be set about the liquid level line of vessel.
2. A touch fasteners offered the loops be attached onto the back of sensor.
3. The liquid level line of sensor aim at the liquid level line of vessel and press hook-and-loop together.

4. The sensor be enabled, the LED flashes with purple color 8 times, then it skip to blue color and sound twice or to red color but not sound.

5. Press  button about 2 seconds, then LED flashes with blue color.

6. Left  button, the LED flashes with blue color about 10 times, then skip to blue color.

● 型號 **CS093-2-H** (高液位信號輸出與警報) 設定高液位步驟如下：

1. 將有鉤面的粘扣帶貼於容器之液位線大約位置。

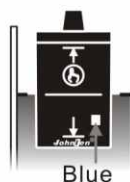
2. 將有毛面的粘扣帶貼於感測器的背面。

3. 將感測器之液位線對準容器之液位線並將粘扣帶鉤面與毛面壓合。

4. 將感測器通電，LED 閃爍紫色8次後跳至藍色且響聲2次或跳至紅色但不會響聲。

5. 按  鍵約2秒後LED會閃爍藍色。

6. 離開  鍵LED會閃爍藍色約10次後跳至藍色。



7. LED skip to blue color, it means that the high liquid level line be set completely.

7. LED跳至藍色，表示高液位線設定完成。

8. Design the high liquid level position of liquid.

8. 設定液體的高液位位置。

A. The high liquid level position be set below the liquid level line of vessel.

A. 高液位的位置設定在容器之液位線下。

a. The hooks of touch fasteners be attached onto a position which be set about the high liquid level.

a. 將粘扣帶的鉤面貼於被設定為高液位的大約位置。

b. The liquid level line of sensor aim at the high liquid level and press hook-and-loop together.

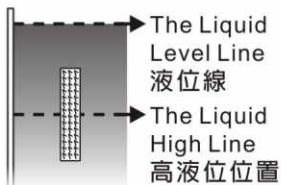
b. 將感測器之液位線對準高液位並將粘扣帶鉤面與毛面壓合。

c. The high liquid level be positioned, then the LED skip to blue color with signal output and alarm.

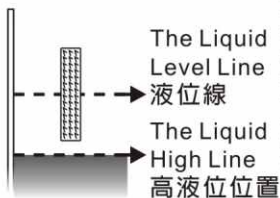
c. 高液位定位完成後LED 跳至藍色並且信號輸出與警報。

d. The LED skip to red color and stop signal output and alarm when the liquid level drops to the liquid level line of sensor.

d. 液位下降到感測器之液位線時LED跳至紅色並且停止信號輸出與警報。



B. The high liquid level position be set above the liquid level line of vessel.



a. The hooks of touch fasteners be attached onto a position which be set about the high liquid level.

b. The liquid level line of sensor aim at the high liquid level and press hook-and-loop together.

c. The high liquid level be positioned, then the LED skip to red color.

d. The LED skip to blue color with signal output and alarm when the liquid level rises up the liquid level line of sensor.

B. 高液位的位置設定在容器之液位線上。

a. 將粘扣帶的鉤面貼於被設定為高液位的大約位置。

b. 將感測器之液位線對準高液位並將粘扣帶鉤面與毛面壓合。

c. 高液位定位完成後LED跳至紅色。

d. 液位上升到感測器之液位線時LED跳至藍色並且信號輸出與警報。

Attention

注 意

1. According to the different composition and concentration of various liquid and the different material and thickness of the vessel, the liquid level had been positioned that will have an tolerance from 0 to 5 cm (Special materials will be more than 5 cm)

1. 依照各種液體成份及濃度的不同和 容器材質及厚度的差異，故定位完成後的液位會有所誤材質會大於5公分）。

2. Depending on the different speed of crystallization of each liquid, the liquid which be easier to form crystals will extend the response time of the alarm, the longest response time spend about 30 minutes before the alarm will sound an alarm.
2. 依照每種液體結晶速度不同，越容易行成結晶體之液體越會延長警報器的反應時間，最長反應時間約需 30 分鐘後警報器才會發出警報聲。
3. The liquid level had been positioned will change because of arising crystallization after a period of time or other reasons, you can press  button to correct the liquid level.
3. 定位完成後的液位會因時間過久而有液體結晶發生或它種原因而造成液位改變，您可重新按  鍵來矯正液位。