



WB-SS400 LEAK DETECTION SENSOR

INTRODUCTION

V2.0 AUGUST 2016

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Leak Sensor Introduction

1. Summary

Liquid switch, the leak detection sensor, is specially used in double-wall tanks for leakage monitoring; the sensor can detect the petroleum and water in the interstitial of double-wall tank and oil sump; if the detect environment have liquid medium, the sensor will give the switch signal; it is sensitive and has compact construction, and also an ideal sensor for oil leakage monitoring of double-wall oil ank.

2. Technical Principle

According to the resonance condition of high frequency electromagnetic wave, Sensor measures the variation of dielectric constant. When high frequency electromagnetic wave diffuses in different medium, its wavelength varies with the medium, and also cause the variation of resonance loop frequency, so to change the resonance condition between resonance loop and crystal oscillation circuit. Output voltage signal will varies base on this change, and converted to switch signal by circuit.

3. Technical Parameters

Leak detection sensor adopts advanced production technology and electronic components, the manufacturing approved by ISO9001 Quality Management System. The leak detection sensor conforms to national standard GB50156-2012 《Standard of Gas station design and construction》 , with remarkable advantages of sensitive, small size, light weight, convenient installation and reliable performance. One thing is that it cannot detect the medium kinds.

Accuracy	3 mm
Response time	2 seconds
Explosion-proof level	ExiaIICT6
Working temperature	-20 °C ~ + 70 °C
Power supply	+ 24V DC
Load impedance	50 k Ω or higher

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Output signals	Switch quantity
Dimension	26 mm in diameter, 100 mm length
Weight	About 255 g

4. Performance Characteristics

The sensor has advantages of sensitive, small size, light weight, convenient installation and reliable performance.

5. Site Installation

A. The dry type tank adopt normally open liquid switch, installed at the bottom of the tank(Figure 1), on-site installation step as follows:

- Liquid switch is vertically put into the test tube of the double-wall tank, and the space between the switch and tank bottom is 2mm;
- The explosion-proof junction box is installed on the short tube which is above the double-wall test tube flange, as shown in figure 3;

B. The wet type tank adopt normally closed liquid medium switch, installed at the top of tank(figure 2), on-site installation step is as follows:

- The liquid medium switch is vertically put into the liquid medium which is in the test tube of the double-wall tank, the immersion depth of the liquid switch should be more than 30mm;
- The explosion-proof junction box is installed on the short tube which is above the double-wall test tube flange, as shown in figure 3;

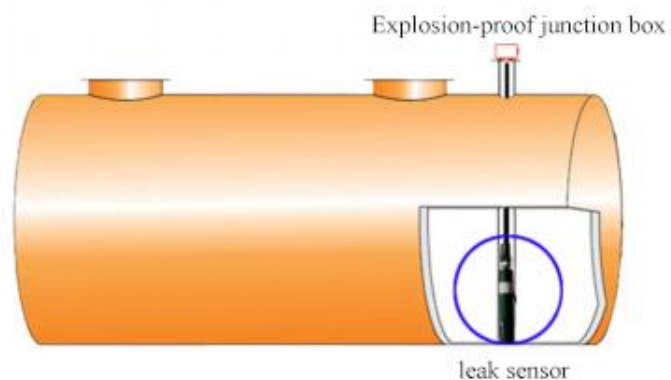


Figure 1: installation diagram of dry type tank

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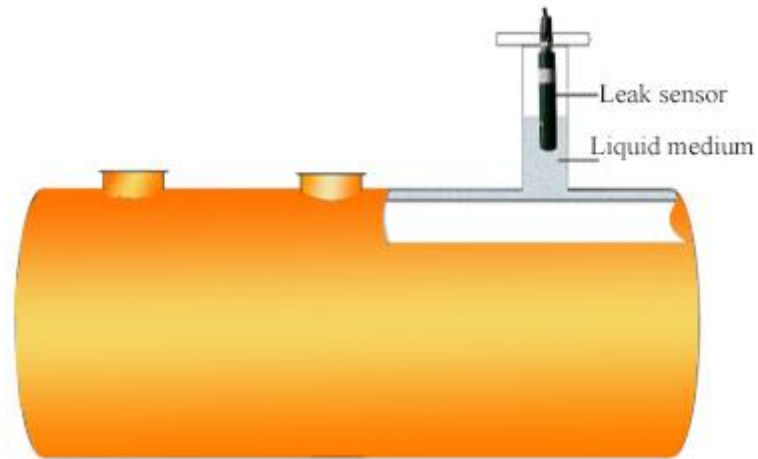


Figure 2: installation diagram of wet type tank

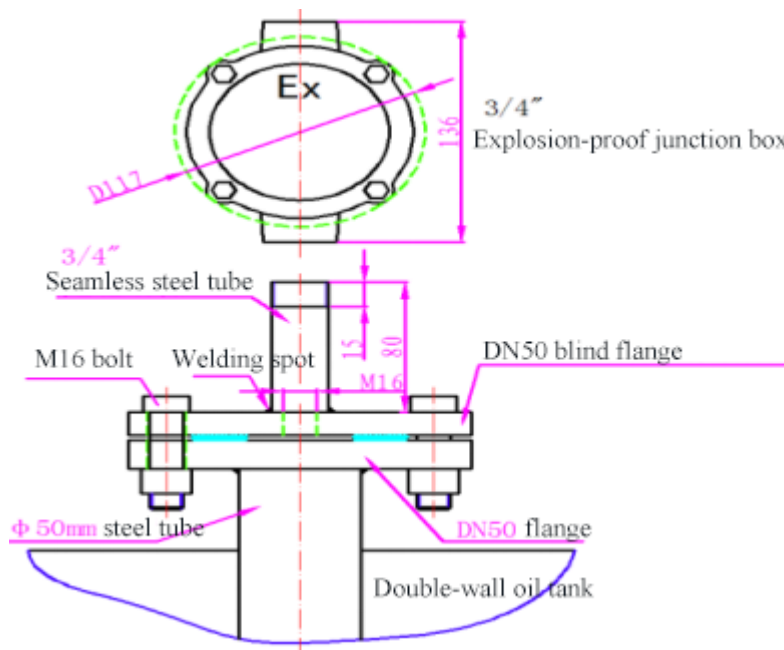


Figure 3: installation diagram of flange and explosion-proof junction box

6. Connection Between Leak Sensor and Smart Console

Connecting leak sensor with leak detection safety barrier in smart console by three-core cable(power+, signal, power-). User can setup whether to enable the sensor, and decide the placement position of the sensor. When leakage occurs, the smart console will send out sound-light alarm and prompt in the monitoring interface.

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**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.windbellatg.com
www.windbellgauge.com**

E-mail: sales@windbelltek.com

Office Tel: +86 371 6030 1609

Office Fax: +86 371 6030 1612



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