SOLIDAT

Measure The Solid Benefits...

SLDL7100 Series

MagScan Magnetostrictive Liquid Level Meter

■ *Working principle*

When MagScan Magnetostrictive Liquid Level Meter works, the circuit part of the sensor stimulates the impulse current on the waveguide wire. The current transmits along the waveguide wire, and the pulse current magnetic field is generated around the waveguide wire. The sensor rod of the meter is equipped a float, which can move up and down along the measuring rod along with the change of the liquid level. There is a set of permanent magnetic rings inside the float, and the magnetic field around the float changes when the magnetic field of the pulse current is encountered with the magnetic ring magnetic field generated by the float. Thus the waveguide wire made of magnetostrictive materials generates a torsional wave pulse in the position of the float. The pulse is transmitted back at a fixed speed along the waveguide wire and detected by a circuit. The position of the float (liquid level) is determined by measuring the time difference between the impulse current and the torsional wave.

■ *Product features*

- Non-contact tracking measurement, no mechanical friction, long life span.
- Level measurement accuracy ± 0.5 mm, position measurement accuracy ±1mm.
- Measurable level , position, 5 point temperature, average temperature, etc.
- Multi-language support, echo display function, easy to debug.
- Excellent security, Ex d (ia) II C T6 intrinsic safety explosion proof grade certificate.
- High temperature resistance 427℃, high pressure resistance 207bar.
- Support HART, Modbus, Profibus PA, Foundation Fieldbus , GPRS/CDMA remote, Bluetooth, etc.

■ *Technical parameters*

Model	SLDL7110 (rigide tube type)	SLDL7120 (flexible hose type)
Accuracy of oil level measurement	±0.5mm	
Accuracy of water level measurement	<0.5mm	
Accuracy of temperature measurement	<±0.2°c	
Accuracy of boundary measurement	±1mm	
High resolution	±0.01mm	
Measuring range	0~5m	0~20m
Measuring points	RTD 5 points oil temperature measurement and volume temperature compensation	
Operating temperature range	-40°c~60°c	
Maximum transmission distance of probe signal	305m	
Oil and gas safety	The floating disc seals better, reduces the volatilization loss, the leak detection function is available.	
Electrical safety	Power supply 24V, Ex d (ia) II C T6 certificate, Lightning and surge protection design	
Installation method	Unclear tank installation, the installation at the dome by a light hole	
Signal output	HART, Modbus, Profibus PA, Foundation Fieldbus , GPRS/CDMA remote, Bluetooth, etc.	

■ *Installation diagram*

Example: Install the liquid level meter in a stirring or shock environment

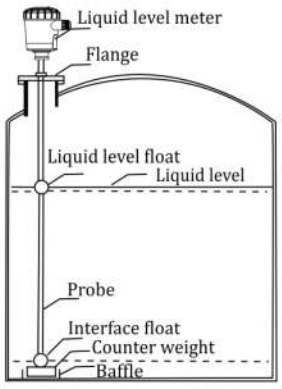

Figure 1: Tank bottom with baffle treatment

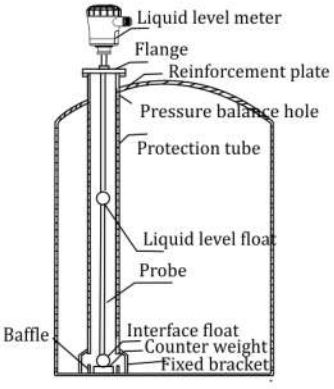

Figure 2: Installation with protection tube

Install the liquid level meter in a slight stirring or slight shock environment as shown in figure 1. If stir the medium in the tube violently, special treatment required in the installation as shown in figure 2. The installation of protection tubes or screens will not only make the medium level in the tube consistent with the medium level in the tank, but also make the level meter in the tube free from impact. The measurement is more accurate and more stable. When installing protective tubes or screens, make sure to open a hole where the liquid level cannot be reached, called pressure balance hole, which makes the level inside and outside the protection consistent. It is best to have holes in each height of the protective tube to make the medium inside and outside of the tube uniform.