

6. TROUBLESHOOTING

No.	Fault Phenomenon	Cause Analysis	Troubleshooting
1	No display or output	Power not connected or polarity reversed	Check power connection and polarity
2	Cannot detect liquid level	Abnormal foreign object covering the sensor	Remove foreign objects from the sensor.
		Sensing element failure or excessive deviation	Return to manufacturer for recalibration
3	Indicator not lit / switch not operating	Circuit failure/ Switch malfunction	Return to manufacturer
4	Green LED flashing	Parameters not backed up	Use communicator to back up

7. MAINTENANCE AND SERVICE

* The sensing tip contains precision components. Do not strike, hit, or subject the product to mechanical impact.

* If any problem occurs during installation or operation, do not disassemble or attempt to repair the product yourself. Please contact the manufacturer for assistance.

* Electrical connections must be made strictly according to the wiring instructions. Incorrect wiring may damage the internal electronic circuitry.

* Handle the product with care during transportation and installation. Avoid shock, vibration, or impact that may damage components and affect product performance.

DWEL

Capacitive Level Switch

Operation Manual



Chengdu Dwel Sensing Technology Co.,Ltd

1. GENERAL INFORMATION

1.1 General information

This manual refers to the following products:
LSK500 and must be kept near the equipment for easy reading and consultation.
It must be read, understood, and strictly follow in order to avoid and prevent accidents and/or malfunctions.
Dwel will not be liable for any injury to people and/or damage to property deriving from disregard of this manual.

2. PARAMETERS

- Power Supply: 12-30VDC
- Supply Current: 8 mA typical, 40 mA maximum
- Output: NPN or PNP
- Maximum Output Current: 20 mA
- Sensing Accuracy: ±5 mm (from sensor center)
- Protection Rating: Ip67
- Electrical Connection: M12 4-pin connector
- Process Temperature: -40 to 120°C (high-temp version up to 180°C)
- Process Pressure: -0.1 to 10 Mpa
- Material: PEEK and 304/316L stainless steel
- Probe Length: Customizable
- Process Connection: G1/2 thread (other threads available on request)

3. WORKING PRINCIPLE

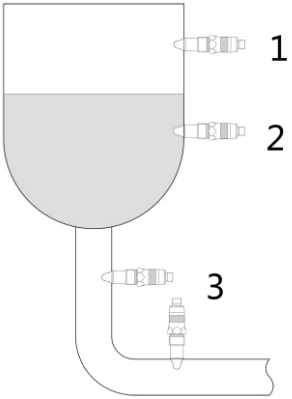
The impedance spectrum sensor determines the capacitance value at the sensor tip and the dielectric constant of the medium using a high-frequency electric field. Since the dielectric constant of air differs from that of the medium, two states can be distinguished: covered and uncovered. Under normal conditions, when the indicator light is off, it means the sensor is uncovered; when the indicator light remains steadily on, it means the sensor is covered, and a switching action is performed. This product features a compact structure, strong resistance to material buildup, good stability, and wide applicability to various media.

4. INSTALLATION

The product is installed with G1/2 thread. During installation, wrap an appropriate amount of PTFE tape or apply sealant onto the thread. When installing the measuring instrument in a confined space, a dedicated socket wrench can be used.

Installation Instructions:

- 1.Overflow protection or high-level detection (MAX)
2. Low-level detection (MIN)
3. Pump dry-run protection (MIN)



5. WIRING

Pins	Function Definition
1	24VDC: Power E+ (Brown)
2	SW1(NC): Normal close (White)
3	0VDC: Power E- (Blue)
4	SW1(NO): Normal open (Black)

