

SD22 OPTICAL LEVEL SWITCH OPERATING INSTRUCTIONS

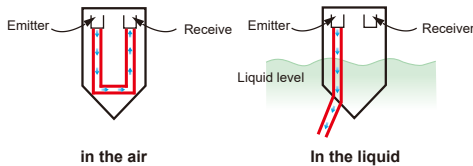
OPERATION PRINCIPLE

Optical liquid level switch uses the principle of total reflection in a prism.

Reflection or penetration, is the basis of the level alarm output. When the the sensor is surrounded by air, the angle of incidence is greater than the critical angle and thus total reflection occurs.

Totally reflected light can be transmitted to the receiver. Conversely, when the sensor is surrounded by Liquid, due to the refractive index of the liquid and the sensor tip material, almost all light will penetrate the front of the sensor.

Using this principle, the optical liquid level switch design is based on light. The receiver can detect and determine a light reflected or penetrated state, and determines the circuit output.

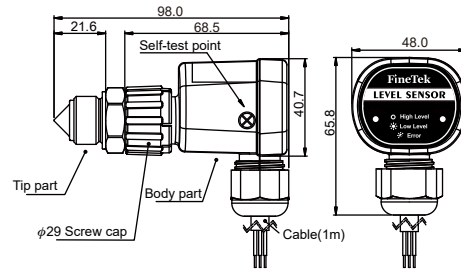


SPECIFICATION

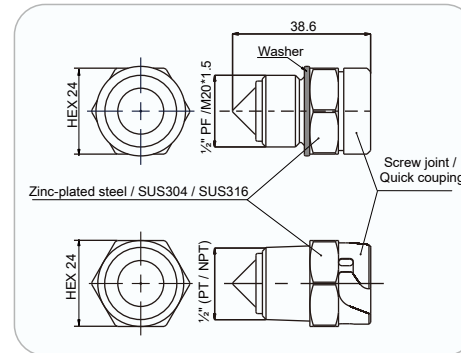
Operating voltage	AC 50/60Hz 115V ±20% AC 50/60Hz 230V ±20%
Relay specifications	AC 240V, 2.5A, C300
Delay time (customization)	-Relay ON after applying the supply voltage (3s ± 1s) -Level monitoring after relay ON(30s ± 1s) -Relay OFF after level continue missing(5s ± 1s)
Ambient temp.	-40°C ~ 85°C
Solution temp.	-40°C ~ 100°C or 120°C (<1h)
Operating pressure	65bar
Protection class	IP65
Switch cycles	10 ⁵ switching cycles
Self-test function	Yes
Connecting screw	1 / 2" (PT, PF, NPT) / M20X1.5mm
Body material	PA66 / PA6 glass fiber reinforced
Tip material	-glass -Zinc-plated steel / SUS304 / SUS316
Cable specifications	5 or 6* wires AWG18 L=1m color coded
Installation torque	100 kgf-cm
Anti-ambient light interference	<500lux
Weight	-Tip part 51g -Body part 167g

PRODUCT DIMENSION

Complete Sensor

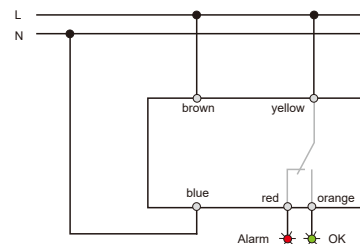


Tip part

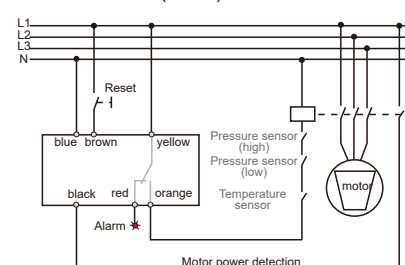


WIRING

◆ SDB-B0 □□ (5 wire)



◆ SDB-B0 □□ (6 wire)



APPLICATION

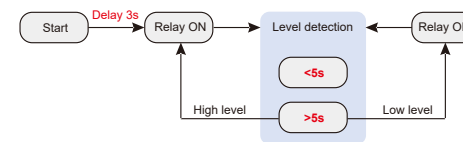
- SD22 uses optical technology to achieve level monitoring and is durable to shocks in the environment.
- Uniquely different design (2 separate parts) compared to the traditional optical switch model.
- SD 22's switch body can be removed while the tip remains installed on tank. No tank drainage or leakage required when removing switch.
- Intelligent process control for not only do liquid level detection, but also with other sensors connected in series so that the full system has protection.
- According to customer demand, adjustable delay time length.
- Self-test function.
- The device is able to detect whether sensor body and tip are installed incorrectly.
- The LED indicator is readily apparent users to see.

	Color	Status	LED lights
Power	Green	Supply in	ON
Status	Red	High level	OFF
		Low level	ON
		Error	Blinking

WORKING FLOW

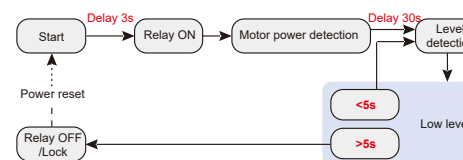
► SDB-B0□□ (5 wire)

- Three seconds after the power is turned on, the relay is on.
- Liquid level detection, level required sustained low 5 seconds, the relay OFF and status light turns on.
- Liquid level detection, level requires continuous contact for five seconds, the relay turns on, the status light turns off.



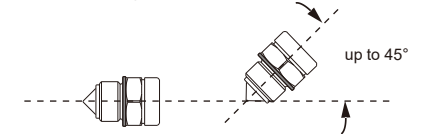
► SDB-B0□□ (6 wire)

- Three seconds after the power is turned on, the relay turns ON.
- Detects the motor power supply is normal after a delay of 30 seconds to enter the liquid level detection state.
- Liquid level detection, level required sustained low for 5 seconds, the relay turns off and status light is turned on lit, enters the Locked state.
- Need to restart the power to cancel the alarm state and re-start the process.

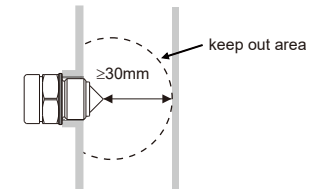


CAUTION

- The recommended tightening torque for the standard sealing ring (O-ring) is 8-12 kgf-cm. This torque may vary depending on the internal pressure of the pipe/barrel or if the material is changed.
- Maximum Allowable Torque for the Casing: 75Kg-cm. (Required wrench or socket wrench locking)
- Parts and body part manually tightened (torque about 10Kg-cm).
- During installation note that the cable outlet direction is downward.
- This product is not for solids in solution, solids containing adhesion of suspended or viscous liquids
- If this product is inserted into an emulsion, liquid and semi-solid may not be able to operate normally.
- The switch can measure 4000NTU standard turbidity solution.
- This product can not be used in the environment with an infrared light source.
- We recommend the following installation below. The horizontal plane parallel to the 0° ~ 45° for optimal installation angle.



- This product can not be installed in the liquid at the flow entry point.
- Don't have any reflective surface or other interference at the front cone radius 30mm.
- Install the threaded sleeve photoelectric switch, the tip of switch must break the casing.
- The tip of optical level switches front of the sensor and the tank wall must be at least distance 30mm, as shown.



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