

SD20 OPTICAL SWITCH OPERATION MANUAL

FEATURE

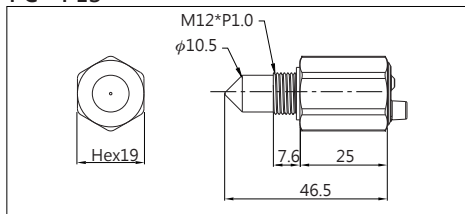
1. NPN, PNP open collector output to energize relay or PLC.
2. Housing material of PC, PES, SUS304, SUS316 for acidity and alkaline; applicable in water, oil, liquid solution, liquor, alcohol....etc.
3. Over-current and reverse polarity protected
4. LED Status indication.

SPECIFICATION

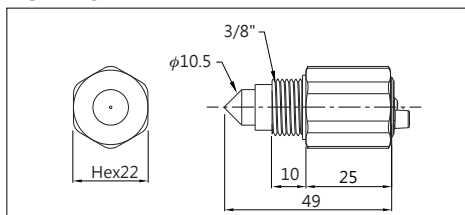
1. Housing Material: PC, PES, SUS304, SUS316
Sensible Tip Material: PC, PES
2. Protection Rating : IP67
3. Operation Temperature: -10~125°C
4. Ambient Temperature: -10~80°C
5. Operation Pressure:
Max.10kg/cm² (PC/PES)
Max.40kg/cm² (SUS304/316)
6. Power Supply: 10~28 Vdc with reverse charge protection
7. Load Current: 100mA Max.
8. Overload Current Protection: 100mA
9. Connection Thread:
M12 x 1 (PC, PES only)
3/8"PF, 3/8"PT, 3/8"NPT
1/2"G (SD204BR99-A only)
10. Lead Wire:
2m CABLE(dia. 3.8) 3C PVC 24 AWG;
custom made if over 2m

DIMENSION

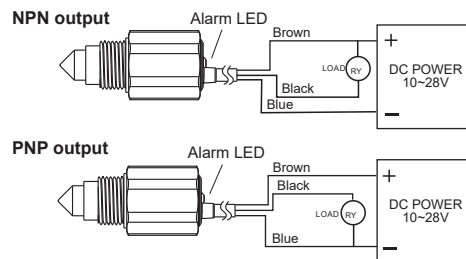
PC、PES



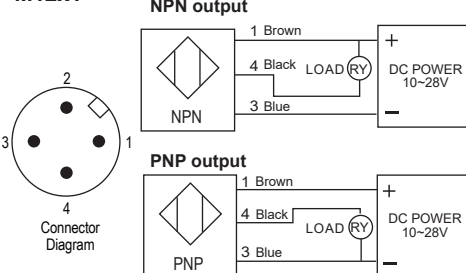
PC、PES



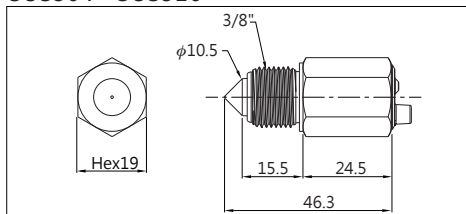
WIRING



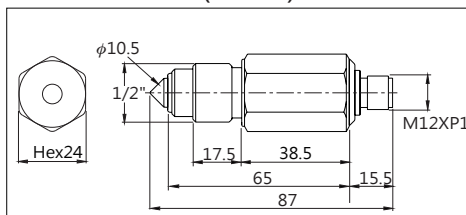
M12x1



SUS304、SUS316



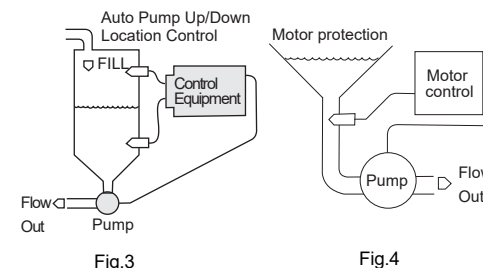
SUS304、SUS316(M12x1)



APPLICATION EXAMPLE

Liquid Level Control:

In Fig.3, two optical switches are installed individually in upper and lower level of the tank. When liquid rises to cover the upper optical switch, it will stop fill in liquid. When liquid drops down and lower optical switch is not covered by liquid, it will start filling up. Liquid has to be maintained in between upper and lower optical switches.



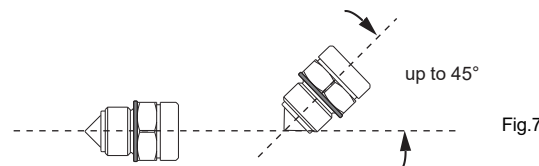
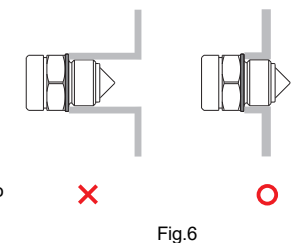
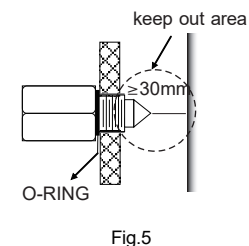
Motor Protection:

In Fig.4, optical switch is installed in lower level of the tank to prevent pump burning caused by the lack of water/liquid.

*Avoid to install it near the corner region.

CAUTION

- In installation (Fig.5), use o-ring in the bottom of the thread and tape seal around the thread then screw to the tank wall.
- Maximum torque for installation:
M12: 25kgf-cm; 3/8": 50kgf-cm(PC/PES)
100kgf-cm (SUS304/SUS316), 50kgf-cm (PC/PES)
- Power supply is 10~28Vdc. Color code: Brown for positive and blue for negative terminal.
- Optical switch is not recommended for operating in emulsion and phase-change liquids.
- Do not install sensor close to infrared sources.
- Tip of the optical sensor must be free at least 30mm from any reflective surfaces or other interferences. Like the tank wall (Fig.5.)
- Do not install the sensor in a stagnation point of the liquid.
- The sensor installed a thread casing when the sensor tip must be exposed.
- This product is not recommended for organic solution especially for viscous liquid which easy to stick on the optical surface (Fig.6.)
- We recommend the following installation below. The horizontal plane parallel to the 0° ~ 45° for optimal installation angle.(Fig.7.)



REGULAR MAINTENANCE

- Please clean the top part of optical switch with clean water regularly.
- Please do not use organic solution or scrub while washing to avoid scratches on the surface.



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