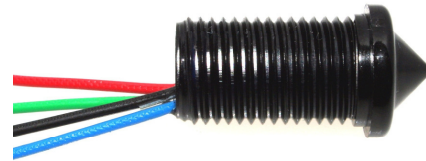


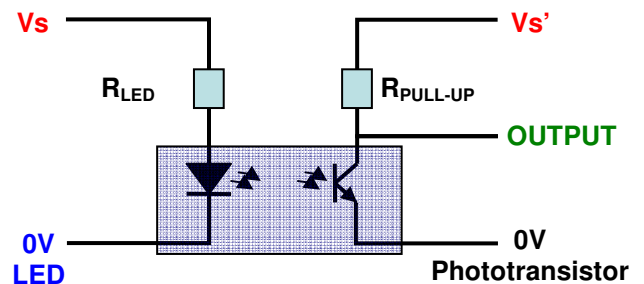
# Optical Liquid Level Sensors D500A4SH



This liquid presence sensor has been developed to address the needs of high volume OEM applications. The sensor contains an infra-red emitter and detector accurately positioned to ensure good optical coupling between the two when the sensor is in air. When the sensor's cone is immersed in liquid, the infra-red light escapes from the cone causing a change in the amount of light at the detector. This configuration allows the customer to tailor the sensor electronics (supply, protection etc.) to their unique application.



Housing	D600 1/2" SAE Thread
Repeatability	± 1 mm
Hysteresis	1 mm depending on liquid
Response Time: Rising Liquid	50 µS
Response Time: Falling Liquid	< 1 second
Supply Voltage (Vs)	Any (see below)
Supply Current	10 mA
Operating Temperature Range	-20°C to +80°C
Housing Material	Polysulphone UDEL 1700
Environmental	IP 67 Rated
Pressure Range	7 bar



Pre-selected R <sub>LED</sub> and R <sub>PULL-UP</sub> Value for different Supply Voltages				
V <sub>s</sub>	R <sub>LED</sub>	R <sub>PULL-UP</sub>	V <sub>OUTPUT</sub> in Air	V <sub>OUTPUT</sub> in Water
3.3V	200R	2K	< 0.75V	> 2.5V
5V	360R	2K	< 1V	> 4.25V
8V	680R	2.5K	< 1.5V	> 7.25V
12V	1K	3K	< 3V	> 11.25V
15V	1.3K	3.5K	< 3.25V	> 14.25V
24V	2.2K	4K	< 10.5V	> 22.5V

Typical installation: Customer has to select suitable resistors for their chosen supply voltage. Forward voltage of LED is 1.3V and LED current should be 10mA (depending on application liquid). Therefore, for a supply of Vs:

$$R_{LED} = \frac{(V_s - 1.3)V}{10mA} = \frac{12 - 1.3}{0.01} = 1070\Omega \approx 1.1k\Omega$$



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