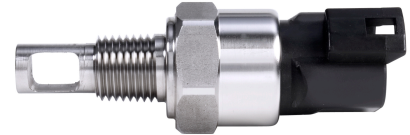


Troubleshooting steps for the XLS-1 Series of Sensors

If your Gems XLS-1 Series Ultrasonic Level Sensor is not performing as expected, please use the steps below to troubleshoot your sensor.

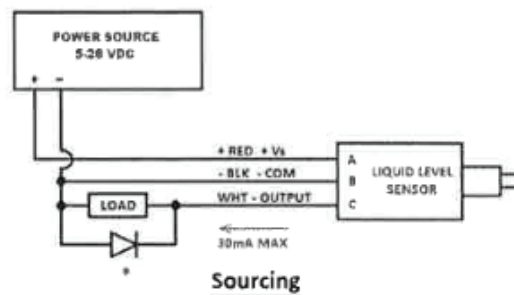
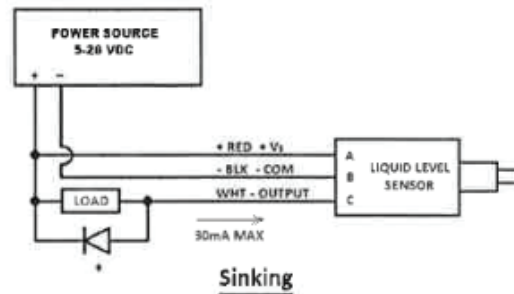
- Is the power supply correct?
 - Standard sensors require a 5 to 28 VDC input.

- Is the wiring correct?
 - Wiring schematics can be found in the bulletin (and below), click here: https://www.gemssensors.com/docs/default-source/resource-files/instructions/instructions_247911
 - Double check that your wire colors/pinouts match correctly.

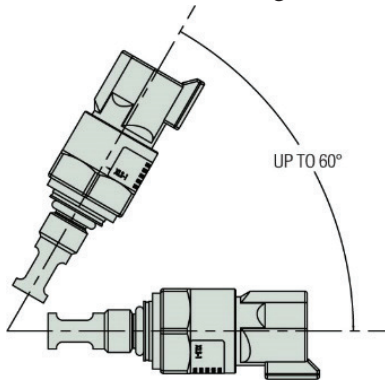


Wiring Diagrams:

* For inductive loads, use diode suppression.



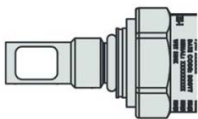
- Orientation:
 - The XLS-1 is designed to work horizontally and up to +/- 60 off horizontal axis:



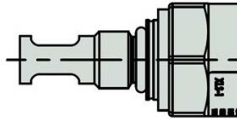
- If the tip is facing directly up or directly down, the media/fluid can pool in the sensing area and cause false readings.
- Is the XLS-1 probe tip fully exposed to the media, and not installed in a port or tube where media can get trapped?

- Cleanliness:
 - Is the port/tip clean?
 - Any dried-on debris that could cause a false reading?
 - Is the opening of the XLS-1 vertical, allowing trapped air or media to escape?

Acceptable Orientation



Preferred Orientation



- Liquid/Media:
 - Is it thick, sticky or dried on? If so, it could be sticking to the sensor opening and causing false readings.
 - Are you trying to detect foam? The XLS-1 was designed to ignore foam and will not detect it as wet.
- Best Practices for Troubleshooting:
 - Test with water.
 - Tap water is fine.
 - Remove the sensor completely from your mechanical and electrical system.
 - This will isolate any variable in the circuitry.
 - Use a known good power supply as well as a known good voltmeter and see if the sensor responds to water.
- If these steps do not yield favorable results, please contact Gems via:
 - <https://www.gemssensors.com/contact-us/technical-support>