



1100 Series Magnetic Level Indicator

General Instructions

The 1100 Series Magnetic Level Indicator from SOR® represents best in class performance and value thanks to decades of experience and innovation. Each unit is custom engineered for your exact application and manufactured to our rigorous quality standards. SOR level gauges are an ideal replacement for existing process sight gauge systems and can easily become a functional bridge system for use with level switches, transmitters, and temperature measurement.

The 1100 series provides visual indication of liquid level within a larger, primary process vessel. Once the MLI is mounted to the process vessel via the supplied process connections, the process liquid will flow freely up and down within the MLI chamber. A specially designed float is located inside the 1100 series chamber and floats along with the process level. This float contains a powerful magnet that interacts with the non-invasive indicator assembly located on the outside of the chamber. This magnetic coupling between the float and the indicator allows the process level to be shown via the use of rotating flags housed inside the assembly. As the level rises and falls, these flags will change color and provide real time indication of the liquid level within the primary process vessel.



NOTE: If you suspect that a product is defective, contact the factory or the SOR Representative in your area for a return authorization number (RMA). This product should only be installed by trained and competent personnel.

Installation

MOUNTING

Before assembling level gauge to your process, check for the following:

- Vessel nozzles should be checked for horizontal and vertical alignment.
- Vessel nozzles must be straight and even, with no bends.
- Center-to-center distance of gauge and vessel nozzles must match.
- Vessel and gauge nozzles should be free of sediment, dust and rust.

PREVENTIVE MAINTENANCE

Periodic inspection will keep your level gauge operating properly for many years. These gauges provide visual level indication on critical services, and a systematic program of preventative maintenance will provide excellent long-term protection. Close attention to the following “what to do” and “what to avoid” tips in your maintenance program are necessary to ensure satisfactory service.

*Design and specifications are subject to change without notice.
For latest revision, go to SORInc.com*

WHAT TO DO

- ❶ Keep your level gauge clean inside and out.
 - If you have solids/debris in your process, or if it tends to build up on equipment, it will be necessary to flush the gauge periodically. How often or thoroughly will depend on the nature of your process liquid. It is important that the float can move freely inside the chamber.
 - If you have an externally mounted transmitter or alarm switch, it is important that all covers and conduit seals are in place and maintained. Moisture, dust and debris entering these electronics housings can cause permanent damage, leading to failure.
- ❷ Inspect the float, terminals and connections monthly.
 - Remove the float from the chamber once a month to check for leaks or damage. Clean the float and reinstall it. Proper float function is critical to the operation of your level gauge.
 - Check electrical terminal connections and wiring for signs of damage due to heat or vibration. Excessive heat can cause wire insulation to become brittle and crack or fall off. Exposed wire can cause shorts or sparks, creating a dangerous situation. Excessive or constant vibration can cause terminal screws to loosen, creating intermittent or lost connections. Check that all electrical connections are tight and wires are flexible with no signs of heat damage.

WHAT TO AVOID

- ❶ Do not leave transmitter or alarm switch covers off longer than necessary to inspect or maintain wiring and connections.
- ❷ Make sure the float is installed correctly in the chamber. Do not install the float upside down.
- ❸ Do not attempt to make adjustments to attached transmitters other than Zero and Span adjustments. Consult the factory for additional assistance.

Point Level Switch Installation

MOUNTING

Optional point level switches are available to be used in tandem with the 1100 series magnetic level indicator. Each switch will ship already mounted to the gauge chamber using hose clamps and set to the customers desired set point. To change the set point, simply loosen the hose clamps and raise or lower the switch assembly.



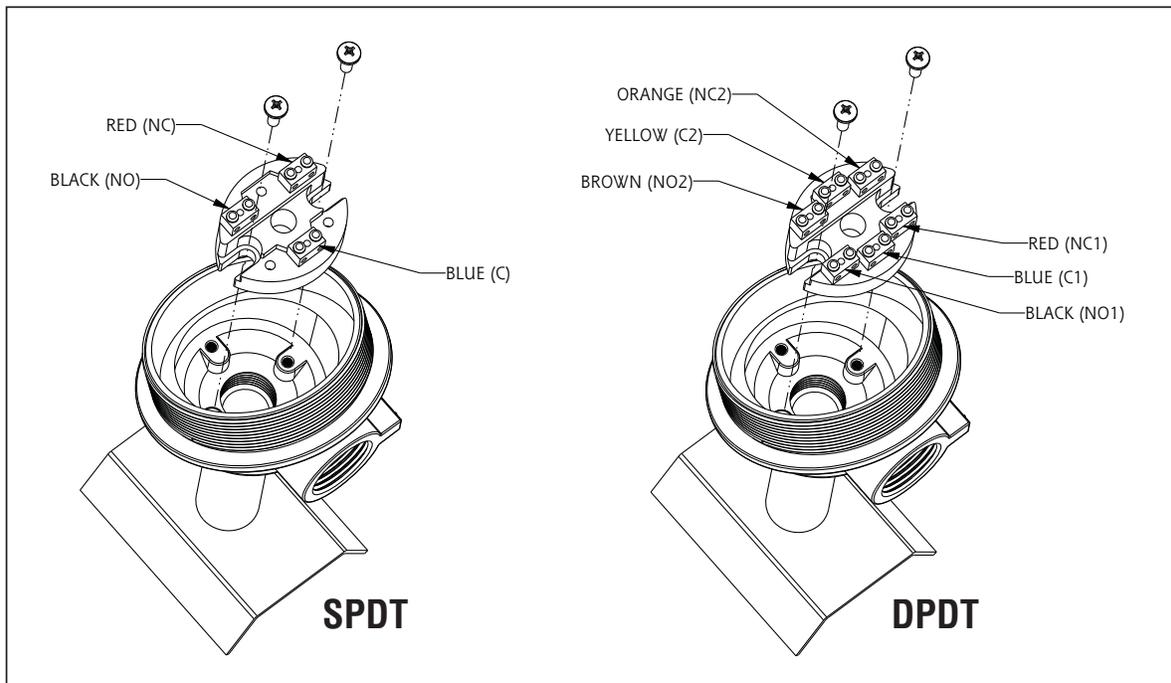
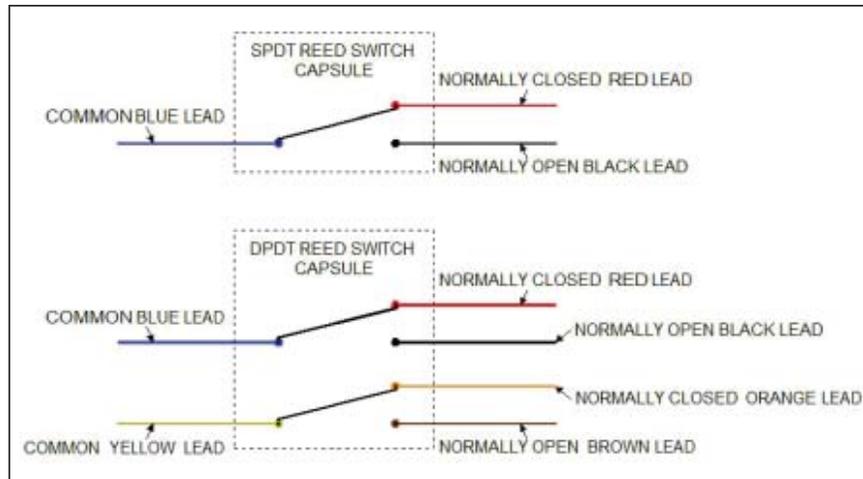
The angle of installation around the chamber is irrelevant to the operation.

ELECTRICAL CONNECTION

Ensure that the wiring conforms to all applicable local and national electrical codes and install unit(s) according to relevant national and local safety codes.



Do not exceed catalog stated electrical ratings. Improper current input to switch will cause permanent damage to contacts.



Troubleshooting		
SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No visual change with a change in level	Float is stuck or damaged	Clean or replace float as necessary
There is an offset between the actual level and the indicated level	The float has been installed upside down	Ensure that the float has been installed with the wording top in the correct direction
Level is above switch position but no output signal	Switch is damaged	Replace switch
Level is below switch position but still receiving output signal	Switch is damaged	Replace switch
Level is at zero, but the scale shows above zero	The scale is offset from the zero	Loosen gauge clamps and reposition the indicator to match the current process condition



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