LEVEL MEASUREMENT

Level Plus® liquid level transmitters are designed specifically for level applications, typically used in variety of industrial and process automation as well as hazardous and sanitary applications. The Level Plus® sensors utilize the inherent advantages of magnetostrictive technology to provide the products level, interface level, and temperature measurement of the process from a single sensing.

Applications
- Oil & Gas
- Chemical
- Food & Beverage
- Pharmaceutical
- Medical
- Oil highway conveyors
- Water and Wastewater
- Hydraulics

MEASURING TECHNOLOGY

The liquid level transmitters provided by Temposonics rely on the company’s proprietary magnetostrictive technology, which can determine position with a high level of precision and robustness.

Each liquid level transmitter consists of a ferromagnetic waveguide, a float, a sensor head, and supporting electronics. The float, containing a permanent magnet and sitting on the liquid, generates a magnetic field as it moves over the waveguide. This creates a temporary radial magnetic field along the waveguide. The magnetic induction of the magnetic field increases the amplitude of the magnetic field near the waveguide. When the current pulse reaches the end of the waveguide, it is converted into a strain pulse that propagates along the waveguide. The momentary interaction of the magnetic fields releases a torsional strain pulse that propagates the length of the waveguide. When the ultrasonic wave reaches the end of the waveguide it is converted into an electrical signal. Since the speed of the ultrasonic wave in the waveguide is precisely known, the time required to receive the return signal can be converted into a liquid level measurement with both high accuracy and repeatability.

The technology, based on magnetostrictive and is not exposed to mechanical stress. Therefore, the sensors exhibit considerably longer lifespans and much higher reliability when compared to other technologies, even in harsh working conditions. Furthermore, the output from sensors corresponds to an absolute position, rather than a relative value. It is not required to recalibrate sensors.

MEASUREMENT TECHNIQUE

UNITED STATES
Temposonics, LLC
1844 S. Service Drive
Gary, IN 46301
Phone: 219-482-8300
info.us@temposonics.com

GERMANY
Temposonics GmbH & Co. KG
USSA Region & India
Aul der Schäfer H 10
6380 Lüdenscheid
Phone: +49 2351 9587-0
info.de@temposonics.com

Find more information or your local Temposonics office or authorized distributor at:
temposonics.com
## Features

<table>
<thead>
<tr>
<th>Linear Deviation</th>
<th>Wetted Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.3 mm F.S.</td>
<td>Stainless steel (AISI 304) or stainless steel 1.4301 (AISI 304L) or stainless steel 1.4404 (AISI 316L)</td>
</tr>
<tr>
<td>±0.5 mm</td>
<td>Stainless steel (AISI 304) or stainless steel 1.4306 (AISI 304L) or stainless steel 1.4404 (AISI 316L)</td>
</tr>
<tr>
<td>±1 mm</td>
<td>Stainless steel (AISI 316L), Nickel Alloy C-276 or FEP</td>
</tr>
</tbody>
</table>

### Applications

- **Laboratory testing**
- **Pump protection system**
- **Agricultural sprayers**
- **Liquid transport tanks**
- **On-board fuel monitoring**
- **Hydraulic reservoir tanks**
- **Chemical totes**
- **Transmission fluid replacement**
- **LPG bullet tanks**
- **Separators / Settlers**
- **Sump tanks**
- **Bulk refined fuel storage tanks**
- **LPG spheres**
- **Distillery storage tanks**
- **Bioreactors**
- **Fermentation tanks**
- **CIP tanks**
- **CBD extraction**
- **Bottle filling machines**

---

Temposonics has been manufacturing level transmitters for over 40 years and has millions of sensors installed around the world. We offers multiple ways of mounting the level transmitter to or on the tank. Level Plus® level transmitters can be installed from the top or bottom of the tank and extend the full length of the tank and provide a high accuracy continuous level measurement that can be transmitted to the control system. A level transmitters consist of a pipe, housing with electronics, and float(s).

Temposonics® offers numerous floats for different applications made of materials such as stainless steel, nitrile, FEP, and Nickel Alloy C-276 for both product level and interface level. To be able to accurately detect the interface level there needs to be a difference of at least 0.05 in specific gravities between the product and interface liquids. For detailed information about floats, refer to the 'Accessories Catalog', (Part No. 551103).

For assistance with selecting a specific float for your application, please contact Application Support with the following information:

- Specific gravity of liquid(s) being measured
- Process temperature
- Process opening size
- Vessel pressure

---

Temposonics has been manufacturing level transmitters for over 40 years and has millions of sensors installed around the world. We offers multiple ways of mounting the level transmitter to or on the tank. Level Plus® level transmitters can be installed from the top or bottom of the tank and extend the full length of the tank and provide a high accuracy continuous level measurement that can be transmitted to the control system. A level transmitters consist of a pipe, housing with electronics, and float(s).