

**Level Plus<sup>®</sup>**

***Liquid-Level Transmitters***

Absolute, Non-contact Level Sensors for



# *PHARMACEUTICAL*



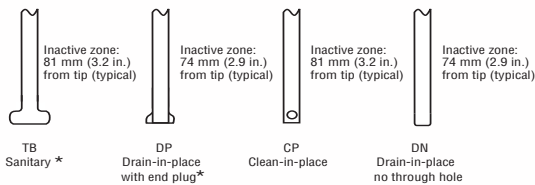
*The Measureable Difference*

## Sanitary by Design

Level Plus® M-Series transmitters have been used in sanitary applications for over 25 years. With our extensive sanitary applications knowledge, we have developed a comprehensive line of options to configure our level transmitters to operate in almost any vessel. Our design has 3A approval and our stainless-steel floats are available in sanitary polish (200 Grit/Ra 25) and electropolished (240 Grit/Ra 15) finish. MTS Sensors also offers numerous sizes of Tri-Clamp process connections as well as four different standard end plug designs. The screws are designed for cleanability with specially slotted and self draining heads.

### Overview

- Output
  - 4 to 20 mA
  - HART®
  - FOUNDATION™ fieldbus
- 3A Approval
- Sanitary Finish (Ra 25, Ra 15)
- NEMA 4X Rated
- Wetted Parts 316L Stainless Steel
- Intrinsically Safe and/or Explosion Proof



\* This end plug style has permanently mounted floats—floats cannot be removed from pipe.

A range of end-plugs are available for a variety of applications

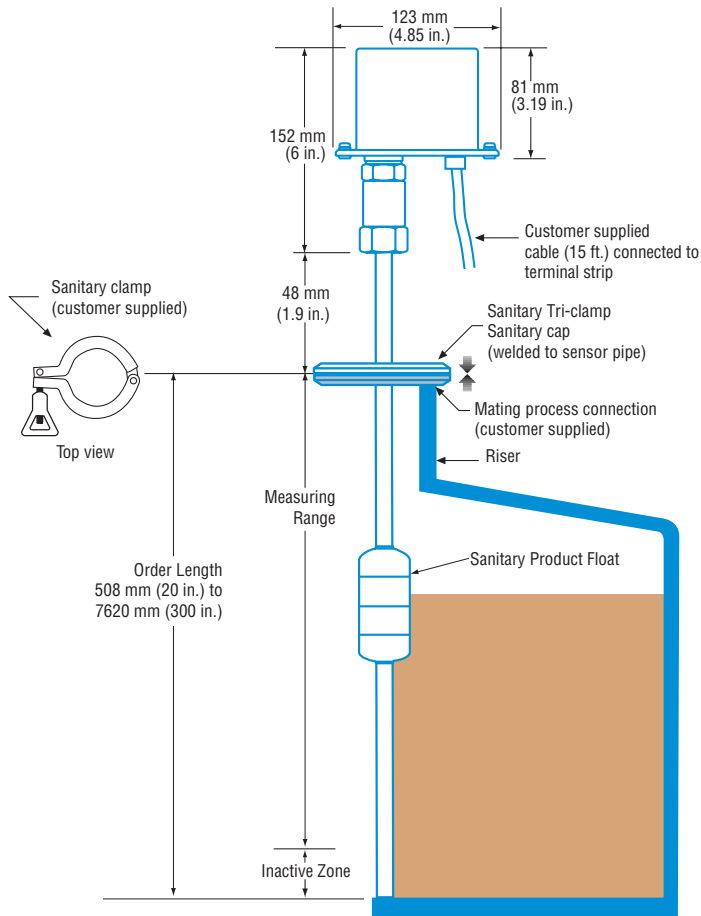


### Simplicity by Design

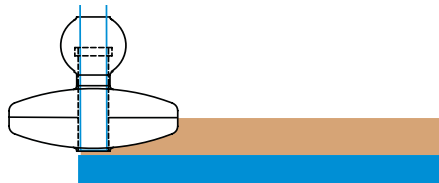
Level Plus M-Series transmitters are designed for simplicity and ease of use. Once the level transmitter is installed in the tank it should not have to be removed. However, sanitary transmitters are designed to be fully field replaceable. This means if the electronics or the sensing element becomes damaged, they can easily be replaced from the top of the vessel without removing the pipe assembly. This design has been developed to reduce downtime or draining the tank. If required, MTS Sensors can provide detailed instructions on how to replace the electronics and sensing element. By design, Level Plus liquid-level transmitters have lower maintenance costs as general maintenance can be performed in the field without a service call.



**M-Series Model MR Transmitter with NEMA Type 4X Sanitary Enclosure**



### Sanitary Pipe Installation and Mounting Reference



This 3A Sanitary Float can detect as little as ½ inch of liquid



### Minimal Inactive Zones

What good is a level transmitter if it cannot measure to the bottom of the tank? The Level Plus M-Series transmitter is able to measure as little as ½ inch of liquid at the bottom of the tank when equipped with the correct end plug and float. Other technologies are limited to almost a foot of inactive zone at the bottom of their transmitters. The same problem occurs at the top of the tank where either you suffer from a large dead zone or you have to add a riser pipe for mounting. If you cannot measure it then you cannot use it.

### CIP, SIP & Autoclave

With our extensive history in the pharmaceutical industry MTS Sensors are installed in clean-in-place, sanitary-in-place, and autoclave applications and have designed their level transmitters to excel in those environments. The problem experienced by most other level transmitters result from highly elevated temperatures and the damage those temperatures can cause to the electronics of the transmitter. MTS Sensors designed their transmitters so that the electronics and sensing element can be removed before and replaced after elevated temperatures, such as those used in the autoclave process. By removing the sensitive components, there are no concerns about damaging the level transmitter while the tank is sanitized.

### The CO\$\$T of Inaccuracy

As the cost of the pharmaceutical liquid being measured rises, so does the cost of inaccuracy. The cost of the main ingredient can be very expensive, sometimes costing hundreds if not thousands of dollars per gallon. So what happens if you add too much or too little of the main ingredient? Either your product no longer functions correctly, or you have wasted money. Multiply this over numerous batches through the course of a year you can easily lose millions of dollars. The choice is simple. Purchase an accurate Level Plus M-Series transmitter today or pay every time you make a batch.

**Part Number: 551157 Revision A 03-09**

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All Temposonics sensors are covered by US patent number 5,545,984. Additional patents are pending.  
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