

# LMT100 magnetostrictive level transmitter

Reliable solution in demanding application



Accurate level measurement not only helps to avoid overfilling, but also ensures just right enough raw material for the process that shall lower the total cost of any operation.

## Measurement made easy

SIL certified level solution for overfill protection applications

## Introduction

The distribution of propane for on-site use is characterized by significant numbers of bulk product deliveries to numerous storage tanks in the field, from small to large in size. It is important and essential to keep a usable supply of product in the tank that is sufficient to meet the customer's needs. The level measurement of these tanks are important to avoid too frequent filling, and on the other extreme, tanks become empty. Both of these conditions are costly to the propane supplier, to the customer relationship, and to customer needs. Additionally, in its natural state, propane is an odourless gas and any leakage is a safety hazard.

## The application

The customer supplies propane storage tanks and monitoring services to oil compressor stations.

- The vessel is a 3302 mm (130 in) tall horizontal bullet tank with roughly 110 m<sup>3</sup> storage capacity.
- Ambient and process temperature range: -23 to 46 °C (-9.4 to 114.8 °F).
- Maximum pressure: 6.8 barg.







## The challenge

Initially, the customer wanted to use a LevelMaster in the application, but it could not perform under the pressures. Having only one vessel entry for vapor recovery, pressure relief and level measurement, the options were limited. To further complicate the application, the filling and emptying of the vessel is very turbulent and propane tends to flash at higher temperatures when emptying the vessel.

Additionally, the customer was also looking for a technology which would not require special equipment to install and which could be removed while the vessel was under pressure.

## The solution

Other level technologies were considered, but none were as capable as the LMT100 insertion magnetostrictive transmitter. The LMT100 was selected because it is not affected by nozzle or vessel geometry and could easily perform in the ambient and process conditions. Furthermore, with the sensor well option, the device is able to be installed and removed while the vessel is under pressure.

## The result



LMT100 for safe and reliable level measurement

The LMT100 has worked flawlessly since installation July, 2015. Since the device is calibrated with the same float that ships with the device, no field setup was required. The customer simply installed the sensor well and transmitter. Since the LMT is a digital transmitter and the sensor element is not a wearing component, no additional calibration routines will be required for years to come.

## LMT100 features and benefits

- High accuracy: 0.01 % of full scale or  $\pm 1.27$  mm (0.05 in), whichever is greater
- Superior sensor (patent #5,473,245)
- Local indication with HMI display
- Never requires recalibration: set it and forget it
- Dual compartment housing with separate field terminal compartment
- Rigid probes up to 9 m (30 ft) probe length
- Total and/or interface level measurement
- Field replaceable/upgradable electronics module
- Built-in RFI/EMI filter
- Probe and flange materials to meet your process compatibility needs
- 4 to 20 mA HART®, FOUNDATION™ Fieldbus\*
- Certified for use in SIL2/3 rated systems per IEC61508
- DTM, EDDL, FDI software available
- Integral RTD option available for process temperature measurement
- Waveform display (no need for an oscilloscope)
- 360° display rotation
- Standard sealed sensor tube
- NAMUR NE107 messaging

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Sales



Service



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**ABB Inc.****Measurement & Analytics**

125 E. County Line Road

Warminster, PA 18974

USA

Tel: +1 215 674 6000

Fax: +1 215 674 7183

**ABB Engineering (Shanghai) Ltd.**

No. 4528, KangXin Hwy.

Pudong New District District

Shanghai, 201319, P.R. China

Tel: +86 10 64231407

Service: +86 4008209696

Email: sales-support.kq@cn.abb.com

Service email:

instrumentservice.abbchina@cn.abb.com

**[www.abb.com/level](http://www.abb.com/level)**



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