

TANK GAUGING SYSTEM FOR RETAIL OUTLETS

Digital Magnetostrictive Inventory Plus Density Probe

MODEL 134-DLi



INTRODUCTION

The Digital Magnetostrictive Inventory plus density Probe provides reliable & accurate product level, water level, product density and temperature measurement in atmospheric pressure storage tanks containing clear liquids like Motor Spirit (MS), High Speed Diesel (HSD) with and without additives (Ethanol blends coming under gas group IIB). It can be mounted in 2" or more dia socket of underground tanks in retail outlets. SBEM make certified zener barrier interface unit 134ZBD's is provided for safe use in hazardous area.

PRINCIPLE OF OPERATION

The magnetostrictive probe consists of non-magnetic, stainless steel tube over which the magnet encased float slides. The float moves along the tube as level changes. The magnet causes a discontinuity in the wire inside the probe. The distance to the discontinuity is sensed as a time delay by a pulse sent by the circuit in the probe head located at the top end of the tube. The circuit converts the delay into level. One float enables product level measurement and other one water level and product density measurement. A temperature sensor incorporated in tube, enables temperature measurement of the liquid.

FEATURES

- Stainless Steel construction for tube/ head.
- Accurate level, water level, product density and temperature measurement.
- Suitable for small capacity petroleum product tanks in retail outlets.
- High reliability and extended life with no maintenance.
- Low power microprocessor based electronics.
- Density measurement added in proven Digital Magnetostrictive 134-TI Level probe with PTR of 5000+ in last two years in retail outlets.
- Easy integration of probe with other consoles.

Measured Parameters

- Product & water level in mm.
- Product temperature in °C.
- Density in kg/m³



Environmental Conditions

- Operating pressure : Atmospheric.
- Operating temperature : 0 °C to 55 °C
- Process fluid temperature : -10 °C to 60 °C

Hazardous Area Certification

- Intrinsically safe Ex ia Ga IIB T6 IP68 as per IS/IEC 60079-0:2011, IS/IEC 60079-11:2006 & IS/IEC 60079-26:2006 suitable for Installation in "Zone 0" for gas groups Gr.IIB. Equivalent to IS class I division 1, Group C, D T6 as per NEC 500 / Class I Zone 0 Ex ia IIB T6 as per NEC 505.
- IP 68 weatherproof enclosure as per IS/IEC 60529:2001. Equivalent to NEMA 6P.

SPECIFICATIONS

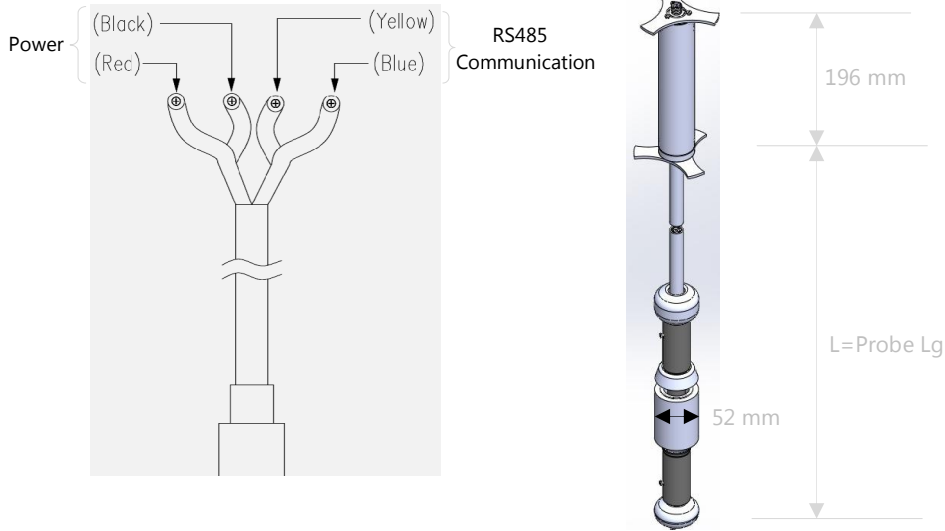
Level / Water Level / Product Density Measurement

- Measuring range: Up to 4000 mm.
- Accuracy : < 0.9 mm, Resolution : 0.01 mm.
- Product density range : 690 to 800, 800 to 900 kg/m³
- Density measurement accuracy : $\leq \pm 2.5$ kg/m³
- Response time : ≤ 1 Sec.
- Cable entry : IP68 certified, sealed 4 core cable with 4 pin connector is provided for power and communication.
- Cable length : Standard 1 m. Additional on request.

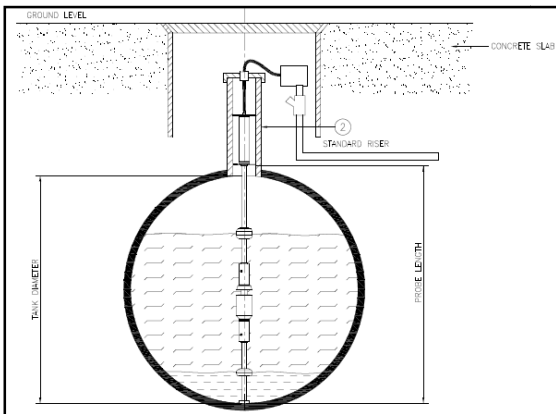
Temperature Measurement

- Measuring range : -10°C to 80°C.
- Accuracy : ± 0.5 °C
- Resolution : ± 0.1 °C.

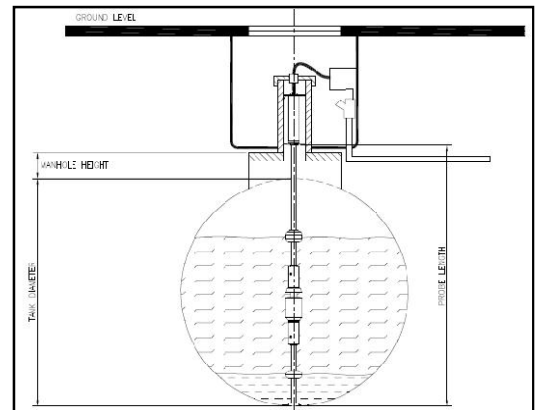
MECHNAICAL DIMENTIONS AND TERMINATIONS



GENERAL MOUNTING ARRANGEMENTS *



2" standard riser without manhole mounting



3" standard riser with manhole mounting

***Other mounting arrangements on request.**

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