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If It's Liquid, We Can Measure It.

ProGauge® LeMon Clock Mechanical Sensor.

The LeMon Clock Mechanical Sensor is a versatile system designed for level measurement in small and medium-sized tanks, up to 5m in diameter. Its operation, based on high-precision gear movement, ensures local visual indication without electrical power. This sensor is a simple, compact, robust, reliable, and interference-free system, even in the most demanding operating conditions.

The LeMon Clock Mechanical Sensor is designed in two versions:

A - With AISI316L steel rod and float

B - Hanging wire with float for clean fluids

For underground tanks, the indicator can be equipped with an extension cable. As accessories, the IP65 waterproof case can accommodate a 4/20 mA transmitter or a potentiometer with Ohmic output and up to two alarms. The LeMon Clock Mechanical Sensor operates on the principle of hydrostatic thrust, which drives the float, which slides freely along the guide shaft. A permanent magnet inside the float generates magnetic repulsion with the carriage, which slides inside the guide shaft. The level measurement is detected by the movement of the float and transmitted via a multi-wire steel cable to the register located in the indicator head. The high-precision register mechanism indicates the level on a circular dial with a dual reading scale. The instrument can be equipped with various flanges and an extension neck, extendable upon request.



ProGauge®

Technology.

- High-precision gear level gauge

Housing.

- Indicator head diameter: 160mm
- Reading dial diameter: 130mm

Degree of Protection.

- IP65

Measuring Range.

- Dial with two colored scales (0-100cm/0-5m)
- 0-100cm black outer dial sector with black pointer
- 0-5 m red inner dial sector with red pointer
- Special scales available upon request (e.g., in percentage or with imperial units of feet and inches)

Extension Neck.

- AISI 316L, standard length: 70mm
- Flanged EN1092-1 or ANSI (DN flanges and extension lengths available upon request)

Installation Options.

- Flanged EN1092-1 or ANSI or threaded GAS/NPT (DN and materials on request)

Shaft.

- Ø 20 x 1mm, length up to 6m, in AISI316L, PP, PVC, PVDF versions

Floats.

- Cylindrical 75x110mm in AISI316L starting from 0.8kg/dm³ - Max. Pressure 20 bar
- Cylindrical 85x110mm in AISI316L starting from 0.7kg/dm³ - Max. Pressure 17 bar
- Spherical DN105mm in AISI316Ti starting from 0.6kg/dm³ - Max. Pressure 32 bar
- Spherical DN140mm in AISI316L starting from 0.7kg/dm³ - Max. Pressure 16 bar
- Tilting DN50mm in PVC for liquefied petroleum gas (LPG)

Power Supply.

- 110V-50Hz / 220V-50Hz/24Vac-dc (see accessories)

Temperature Limits.

- Ambient - Min -40°C ... 85°C
- Process - Min -40°C ... 150°C (high temperature version available upon request)

Maximum Operating Pressure.

- 40 bar; Max 10 bar for the PP-PVDF-PVC version

Accuracy.

- ± 2.5mm

Repeatability.

- ± 1mm

Resolution.

- 2.5mm

Electrical Connections.

- Cable gland PG 16 - ISO M20 - M16 - 1/2" NPT (Others available upon request)

Accessories | Analogue Outputs.

- 4...20 mA (two-wire connection) standard for non-hazardous areas
- ATEX intrinsically safe
- SMART version with HART protocol

Accessories | Digital Outputs.

- 10K ohmic output (10-turn potentiometer / 10K)
- 1 to 2 simple mechanical microswitches
- 1 to 2 mechanical microswitches in ATEX explosion-proof design

Materials.

- Floats - AISI 316L, AISI 316Ti, PVDF, PP, PVC
- Shaft - AISI 316L, PVDF, PVC, PP
- Cable - Std. in AISI 316L (multi-strand cord) - ALLOY 625 - MONEL - HASTELLOY C276 (others on request)

Materials | Indicator Head.

- Die-cast aluminum with tropicalized epoxy coating
- Tempered safety glass, 5mm thick

Materials | Connection Flange.

- CARBON STEEL, AISI 316L, ALLOY 625 - MONEL - HASTELLOY C276 - PVDF, PVC, PP

Materials | Extension Neck.

- AISI 316L, PVDF, PVC, PP

Materials | Flange Gaskets.

- Reinforced graphite, 2mm thick, others on request

Certifications.

- ATEX

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