LT7000 Capacitive Level Transmitter

Working Principle

The capacitive level transmitter operates based on the principle of capacitance variation. A capacitor is formed between the probe and the tank wall (or reference electrode). As the level changes, the medium's dielectric constant varies, resulting in a linear variation in capacitance. This change is converted into a standard **4–20 mA DC output signal**.
The instrument uses RF amplitude stabilization technology that effectively suppresses material buildup, coating, and electrical interference, ensuring stable, reliable measurement even under complex operating conditions.

Features

1. Suitable for continuous level measurement of strong corrosive, weak corrosive, and non-corrosive media
2. Wide temperature range: -190°C to +250°C
3. High pressure capability: -0.1 to 32 MPa
4. Measurement is almost unaffected by pressure, temperature, and humidity
5. Strong anti-interference performance, stable and reliable operation
6. Explosion-proof design available for hazardous environments
7. Custom design available for special applications

Applications

The capacitive level transmitter is suitable for both **liquid and solid level measurement** (such as powders and granules). It can be used in:

- Open tanks and pressurized vessels
- Corrosive media (acid, alkali, etc.)
- General industrial liquids

Widely used in industries such as:

- Oil & Gas
- Chemical & Fertilizer
- Metallurgy & Steel
- Power Plants
- Water Treatment & Environmental Protection
- Food & Light Industry

Technical Specifications

Parameter	Specification
Measuring Electrode	Single probe (for metal tanks); Double probe (for non-metal tanks)
Electrode Type	Stainless steel rigid probe; Stainless steel flexible probe; PTFE-coated rigid probe; PTFE-coated flexible probe
Measuring Range	Rigid probe: 0–3 m; Flexible probe: 0–60 m

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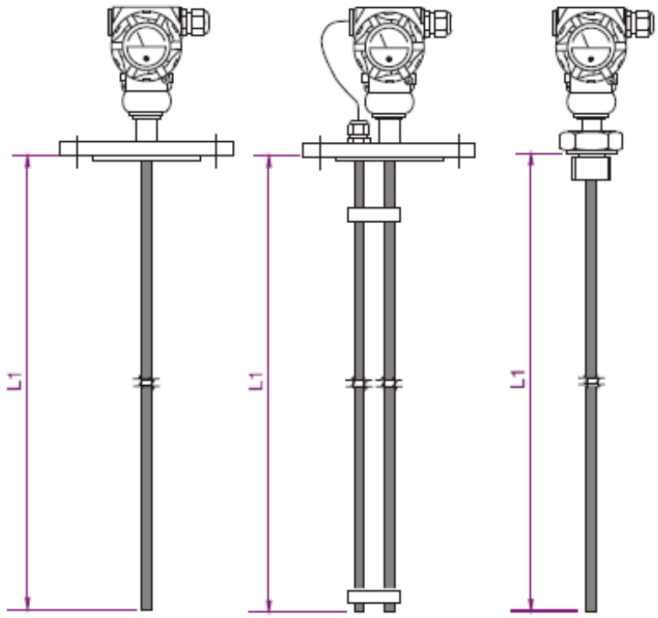
Accuracy	Class 0.2 / 0.5 / 1.0 / 1.5 / 2.0
Output Signal	4–20 mA DC (2-wire)
Load Resistance	0–600 Ω
Transmission Distance	>1000 m
Power Supply	24 V DC
Nominal Pressure	0.6 / 1.0 / 2.5 / 6.4–32 MPa
Process Temperature	-190 to 200°C
Ambient Temperature	-50 to +80°C
Installation	Flange: DN40–DN150; Thread: M27×2
Relative Humidity	≤85% RH
Max. Medium Particle Size	≤2 mm
Electrical Connection	M20×1.5 female thread
Explosion-proof Rating	Ex d II C T6 Gb

Mechanical Structure / Mounting



Single probe, coaxial electrode – Flange mounting, Double probe – Flange mounting, Single probe, coaxial electrode – M27×2 thread mounting