

XenP108Y Liquid Level and Position Detection

Miniaturized High-precision Liquid Level and Position Detection mmWave Sensor

Wide Range, High Precision: The detection precision within the range of 0.15 to 10 meters is $0.03 \sim 0.15$ millimeters.

Energy-efficient and Easy to Adapt: Low operating current reduces power consumption and heat generation.

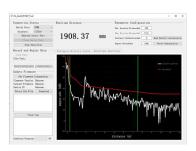
Compact and Easy to Deploy: Small size for convenient installation.

Flexible and Easy to Develop: Real-time reporting of results with configurable parameter settings.

Specifications	
Detection Range	0.15~10 m
Accuracy	0.5 mm
Precision	0.03~0.15 mm
Operating Frequency	23~27 GHz
Operating Voltage	3.0~3.6 V
Average Current	6 mA (report period: 1 s) 15 mA (report period: 160 ms) * refer to section 9.5 of UM10036P
Sensor SoC	S5KM312CL
Hardware Size	44 mm×36 mm
Beam Width	±12° (-6 dB, round trip)
Interface	UART
IAP Function	In-application programming (IAP) using UART

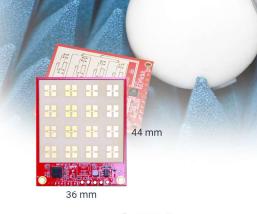
XenP108Y is a compact high-precision liquid level and position detection sensor reference design developed based on the ICLegend Micro S5KM312CL chip. The sensor utilizes miniaturized narrow-beam antennas, ultra-wideband FMCW waveforms, along with proprietary radar signal processing and an embedded high-precision liquid level and position detection algorithm. This combination enables millimeter-level accurate detection of target distances within a specified area, with real-time reporting of results. With this reference design, users can swiftly develop compact and high-precision liquid level detection sensing products.





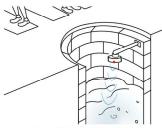
Liquid level and position detection demonstration tool Real-time display of distance history curves and detection waveforms

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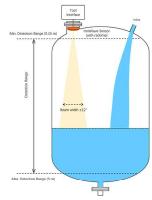
Industrial Application Tank Level Detection



Intelligent Cities Well Cellar Level Detection



Smart Transportation Safty and health monitoring of bridges and tunnels



Recommended Installation Illustration

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