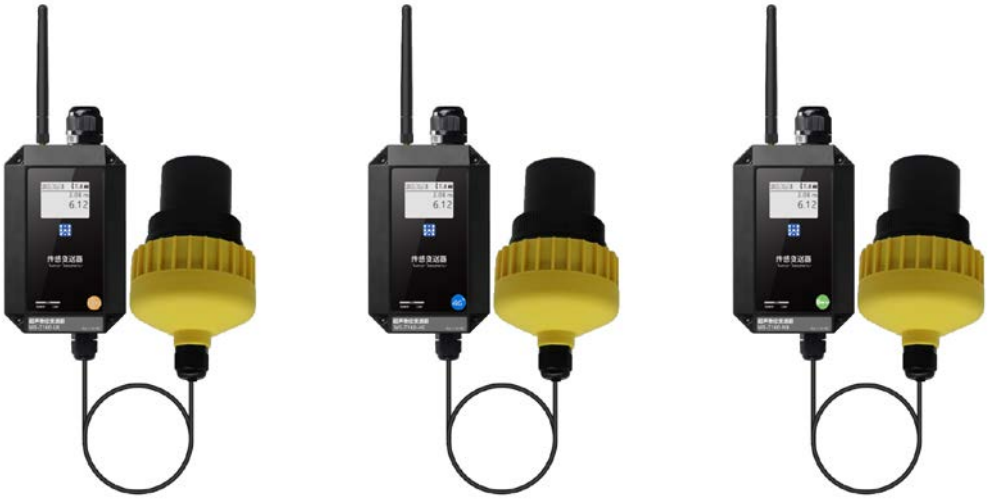
WES

Product specifications



WE-T160

Brief introduction to the product

WE-T160 is a series of ultrasonic level monitoring transmitters, including LoRa, 4G, NB, etc., and the power supply mode is battery power supply and 24V power supply respectively. The ultrasonic level transmitter adopts an ultrasonic water level gauge sensor to calculate the on-site liquid level in real time according to the installation height and the height of the measured ultrasonic probe from the liquid level. It uses LoRa, 4G, NB and other communications to achieve long-distance communication, combined with Shidian Technology's industrial edge computing gateway products, and uploads them to the Shidian Technology equipment management platform to realize real-time collection, analysis, calculation, storage and display of on-site liquid level physical quantities.

The split design of the transmitter host and probe provides a variety of ranges for different needs such as the medium to be measured on site, the liquid level range, and the installation method, and can be widely used in water conservancy measurement such as rivers and reservoirs, tank level, sewage cellar well and sewage well level measurement.

Key features:

Split design

- The transmitter host adopts LoRa type, supports the frequency range of 410MHz~490MHz, and supports SMA antenna interface; 4G type supports full network communication;
- The transmitter communicates with the edge computing gateway of Shidian Technology through the WES-WIO wireless terminal communication protocol to realize real-time reporting of on-site liquid level and status detection data.
- External ultrasonic probe with optional and customized liquid level detection range and installation method

Ultrasonic probe specifications

- Support 0~8m conventional range, other ranges can be customized;
- IP68 protection level;
- Support -40~80° C storage temperature, -20~60° C working environment temperature;

Host industrial-grade design

- IP67 protection level;
- Support -40~85° C storage temperature, -20~70° C working environment temperature, 5~95% relative humidity;

Installation instructions and after-sales maintenance

- The host supports installation methods such as guide rails, wall mounting, snap rings, and hoops;
- When installing the probe, there should be no obstacles higher than the object to be measured within the radiation radius of the installation position, and the radiation radius of the 8m range is 1.5m.
- After the installation of the equipment is completed, it can be used normally after setting the

installation height with the World Power Equipment Assistant applet. (Installation height: the distance from the probe to the bottom of the well/bottom of the water / the bottom of the tank, determined according to the installation environment);

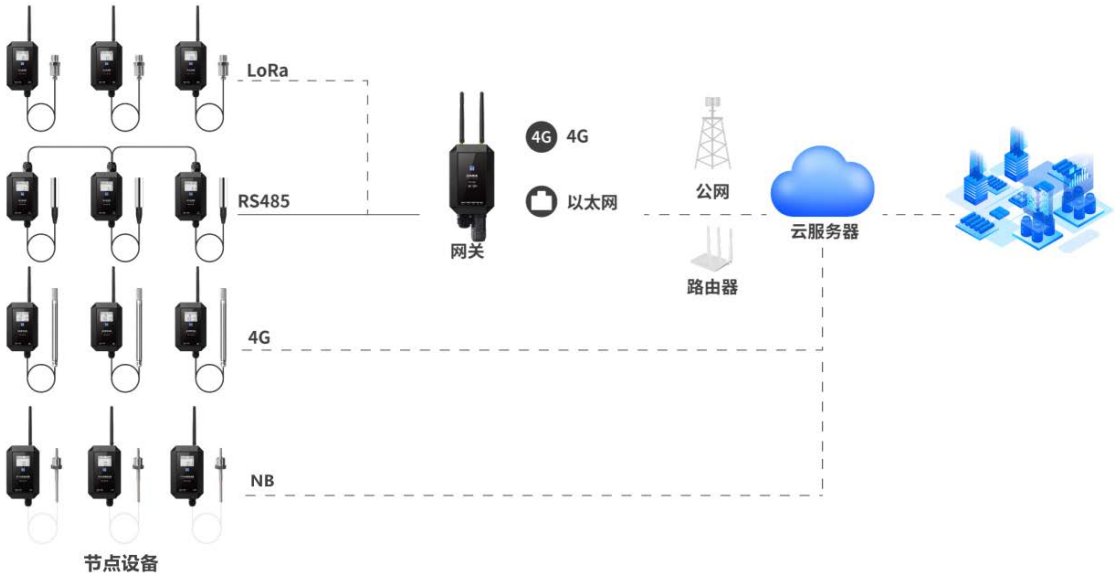
- The P0 type supports 19000mAh large-capacity lithium battery, with a typical battery life of 5 years in a 5-minute reporting cycle and a battery life of up to 15 years in a 1-hour reporting cycle.
- It supports rich fault detection functions, including fault detection such as over-limit liquid level threshold, abnormal changes in liquid level value, and low power, and notifies after-sales maintenance personnel through mobile phone SMS and email through the equipment management platform of Shidian Technology.
- It supports high-definition LCD display, with LED indicators and buttons, you can check the liquid level value, alarm information, etc. in real time on the spot

Functional categories	Function description	Note:
Communication interface	LORA communication port	Antenna Interface Type: SMA Female It supports the 410.125~490.125MHz frequency band Maximum transmit power of 22dBm, Maximum -147dbm reception sensitivity, 5KM signal coverage capability with open viewing distance
	4G	MQTT, HTTP, WES cloud service protocol LTE FDD B1/3/5/8 LTE TDD B34/38/39/40/41 (full band). Rate(Mbps) LTE FDD:10.3(DL)/5.1(UL) LTE TDD：9.1(DL)/3.1(UL)
	NB	LTE Cat NB2：B3/B5/B8 Rate(kbps):Single-Tone:25.5(DL)/16.7(UL) Multi-Tpne：127(DL)/158.5(UL)
UI	1* Key input	Refer to the UI specification definition, multi-function buttons
	2* LED indicators	System, Com communication indicator
	screen	128*64 dot matrix monochrome LCD Displays sensor values and status information Set up interactions
Power supply	Powered by lithium batteries	19000mAh, lithium battery
	24VDC power supply	Wide voltage input, 9~30V
environment	Work environment	Working temperature: -20~70 Working relative humidity: 5% ~ 95%
	Storage environment	Storage temperature: -40° ~ 85° Storage relative humidity: 5% ~ 95%
Protection level	Water and dust resistant	IP67
	ESD	4KV contact, 8KV non-contact
Physical characteristics	Appearance dimensions	78 (width) * 121 (height) * 51.4 (depth) mm
	Installation method:	Wall-mounted, holding rod, hoop, guide rail installation
Probe	Measurement type	level
	Measurement range	Liquid level: 0~8m

	Measure blind spots	0.3m
	Detection accuracy	Level: ±0.5% FS
	Minimum resolution	0.001m
	Stability	± 0.3% FS/year
	Installation method:	Thread Fixed, NPT 2″

Specifications

Typical topology



Selection and ordering

Product base model:
WE-T160

Parameter selection table:

Communication mode	A Accuracy Rating	R range range	Power supply mode	Sensor probe mounting

LR: LoRa4G: 4G/cat1NB: NB Other communication methods are customized	N/A	R8: 8m	P0: Battery power supply P1: 9~30VDC power supply Other power supply methods are customized	N/A

Example:

WE-T160-LR-R8-P0

LoRa wireless ultrasonic level transmitter, 0~8m detection range, battery powered