specification

WE-T131

Product Overview

The WE-T131 series consists of explosion-proof level monitoring transmitters, offering transmission options including LoRa, RS485, and 4G, as well as power supply options of battery-powered or 24V-powered. These level transmitters utilize high-stability digital sensors to enable real-time monitoring and calculation of field-level liquid levels; they employ communication protocols such as LoRa, RS485, and 4G for long-distance data transmission. When integrated with Shidian Technology's industrial edge computing gateway products, these transmitters upload data to Shidian Technology's equipment management platform, enabling the real-time collection, analysis, computation, storage, and visualization of physical parameters related to field-level liquid levels.

The transmitter unit and probe adopt a split-type design. To accommodate various requirements—including the measured medium at the field site, liquid level range, and installation method—this system offers a wide range of liquid level probes with different measurement ranges and installation specifications, ensuring optimal matching to specific application scenarios. These probes can be widely deployed in building facilities, industrial sites, municipal infrastructure, and other similar applications.

The explosion-proof product is an explosion-proof transmitter, compliant with the requirements of GB 3836.1-2010 and GB 3836.4-2010, with the explosion-proof marking Exib IIBT4.

main features

Split-type design

- The transmitter unit features a LoRa module supporting the 410 MHz−490 MHz frequency band and an SMA antenna interface; the 4G version supports full-network communication.
- The transmitter communicates with the Shidian Technology edge computing gateway via the WES-WIO wireless terminal communication protocol, enabling the real-time reporting of field-level liquid level and status detection data;
- External level probe; the level detection range and installation method can be selected or customized;

Comprehensive selection of liquid level probe specifications

- Supports a conventional liquid level measurement range of 0－5 m; other ranges can be customized.
- Supports level sensors with various accuracy levels to meet different precision requirements;
- Supports various installation methods, including direct mounting and embedded installation;

Robust industrial-grade design

- IP67 protection rating;

- Supports a storage temperature range of-40°C to 85°C, a operating environment temperature range of-20°C to 70°C, and a relative humidity range of 5% to 95%;

Comprehensive installation services and after-sales maintenance

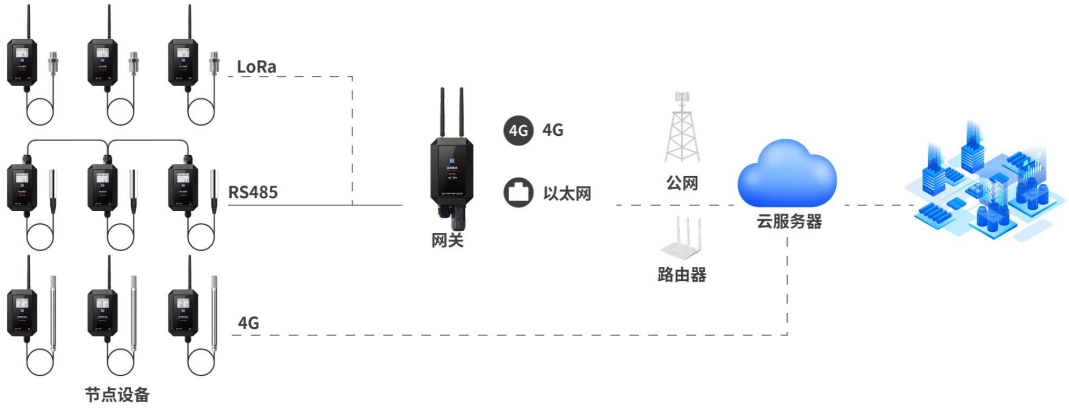
- Supports installation methods such as guide rails, wall mounting, clamps, and clamping rings;
- The P0 model features a 19,000 mAh high-capacity lithium-ion battery; with a 5-minute reporting interval, it offers a typical lifespan of 5 years; with a 1-hour reporting interval, its lifespan can extend to 15 years.
- The system supports a comprehensive range of fault detection functions, including detection of liquid level threshold exceedances, abnormal liquid level fluctuations, and low battery levels; via the Shidian Technology Equipment Management Platform, it notifies after-sales maintenance personnel via SMS and email;
- Supports high-definition LCD displays, integrated with LED indicators and buttons, enabling real-time monitoring of liquid level values, alarm information, and other data at the site;

functional category	functional description	remarks
communication interface	LORA	Antenna interface type: SMA male connector
		Supports the 410.125−490.125 MHz frequency band
	Communication Port	Maximum transmit power: 22 dBm
		Maximum-147 dBm receiver sensitivity; signal coverage capability over an open line-of-sight distance of 5 km.
		MQTT, HTTP, and WES cloud service protocols
	4G	LTE FDD B1/3/5/8
		LTE TDD B34/38/39/40/41 (Full spectrum)
		Data rate (Mbps): LTE FDD: 10.3 (DL) / 5.1 (UL)
		LTE TDD：9.1(DL)/3.1(UL)
	RS485	Communication protocol: Compatible with WES-IO (fixed 9600 bps) and Modbus protocols
		Baud rates: 2400,4800,9600,19200,34800,57600,115200
		Data bits: 7-bit, 8-bit
		Stop bits: 1 bit, 1.5 bits, 2 bits
		Checksum: None, Odd, Even
UI	3* Key Input	According to the UI specification definition, multi-function button
	2× LED	System & LoRa Communication Indicator Lights

	indicator lights	
		128×64 dot-matrix monochrome LCD
		Displays sensor values and status information
	screen	Configure Interaction
	Lithium-ion	
supply	battery power	
electricity	supply	19,000 mAh, lithium-ion battery
	24VDC power	
	supply	Wide voltage input: 9–30 V
	work	Operating temperature: -20–70°C
environment	environment	Relative humidity during operation: 5% – 95%
	Storage	Storage temperature: -40°C to 85°C
	Environment	Relative humidity for storage: 5% – 95%
Protection	waterproof and	
Level	dustproof	IP67
	ESD	4 kV contact; 8 kV non-contact
	Explosion-proof	
	type	Intrinsically Safe Type Exib IIBT4
physical	External	
characteristics	dimensions	96.8*120*141.5mm
	way to install	Threaded Installation
	Measurement	
monitor	Type	level
	measuring range	Liquid level: 0–5 m
	Detection	
	accuracy	Level: ±0.5%FS
	minimum	
	resolution	0.1m
	stability	±0.3%FS/year
	way to install	Immersion type (specialized waterproof gas-conducting cable)

Specifications

Typical topology



Selection and Ordering

Product Base Model: WE-T131

Parameter Selection Table:

communication mode	A accuracy class	R Range	P power supply mode	Sensor probe installation method
LR: LoRa 4G: 4G/cat1 RS: RS485 MB: RS485/Modbus Customized other communication methods	0.5%FS	R05: 5m R10: 10m	P0: Battery-powered P1: 9–30 VDC power supply 120 Other Power Supply Methods – Customized Solutions	Threaded Installation

instance ：

WE-T131-LR-R10-P0

LoRa wireless explosion-proof level transmitter, 0–10 m detection range, battery-powered