

Product specifications



WE-T103

Brief introduction to the product

WE-T103 is a series of micro-differential voltage monitoring transmitters, including LoRa, RS485, 4G, NB, etc., and the power supply mode is battery power supply and 24V power supply. The pressure transmitter adopts high-stability digital sensors to realize real-time monitoring and calculation of on-site pressure, and uses LoRa, RS485, 4G, NB and other communications to achieve long-distance communication.

The probe adopts on-board design, according to the different needs of the medium to be measured on site, the pressure range, and the installation method, providing a variety of pressure range products, optimally matching the needs of application scenarios, can be widely used in building buildings, industrial sites, municipal and other application scenarios.

Key features:

One-piece design

- The transmitter body 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 pressure and condition detection data.
- A variety of pressure detection ranges can be selected and customized;

Rich pressure range accuracy selection

- Support $\pm 500\text{Pa}$ conventional micro-differential pressure range, other ranges can be customized;
- Support different levels of measurement accuracy to meet different accuracy requirements;
- The sensor measurement interface adopts the epitaxial method of gas duct, and the length of the gas duct can be customized.

Robust, industrial-grade design

- IP67 protection level;
- Support $-40\sim 85^{\circ}$ storage temperature, $-20\sim 70^{\circ}$ working environment temperature, 5~95% relative humidity;

Comprehensive installation and after-sales maintenance

- Support installation methods such as guide rails, wall mounting, snap rings, and hoops;
 - 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.
 - Support rich fault detection functions, including pressure threshold exceeding the limit, abnormal pressure value change, low battery and other fault detection, through the Shidian Technology equipment management platform, to notify after-sales maintenance personnel by mobile phone SMS and email;
 - Support high-definition LCD display, with LED indicators and buttons, you can check pressure values, alarm information, etc. in real time on the spot;
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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)
	RS485	Communication protocol Compatible with WES-IO (fixed 9600bps) and Modbus protocol Baud rate 2400, 4800, 9600, 19200, 34800, 57600, 115200 Data bits 7 bits, 8 bits Stop positions 1 bit, 1.5 bit, 2 bit Check bits None, Odd, Even
	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, LoRa 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
Monitoring	Measurement type	Differential pressure
	Measurement range	Pressure: $\pm 500\text{Pa}$
	Detection accuracy	Pressure: $\pm 2\%$ FS
	Minimum resolution	0.1Pa
	Stability	$\leq \pm 0.2\%$ FS (subject to sensor)
	Overload	150%FS

Specifications

Typical topology



Selection and ordering

Product base model:

WE-T103

Parameter selection table:

Communication mode	A Accuracy Rating	R range range	Power supply mode
LR: LoRa4G: 4G/cat1RS: RS485NB: NB2	A1: 1%A2: 2%	R1: $\pm 100\text{Pa}$ R2: $\pm 500\text{Pa}$ R3: $\pm 1000\text{Pa}$ R4: $\pm 1500\text{Pa}$	P0: Battery power supply P1: 9~30VDC power supply
Other communication methods are customized	Other precision range customization	Other range customization	Other power supply methods are customized

Example:

WE-T103-LR-A1-R2-P0

LoRa wireless micro-dropout transmitter, 1% accuracy, $\pm 500\text{Pa}$ detection range, battery powered