Shaanxi WESIVO Technology Co., Ltd

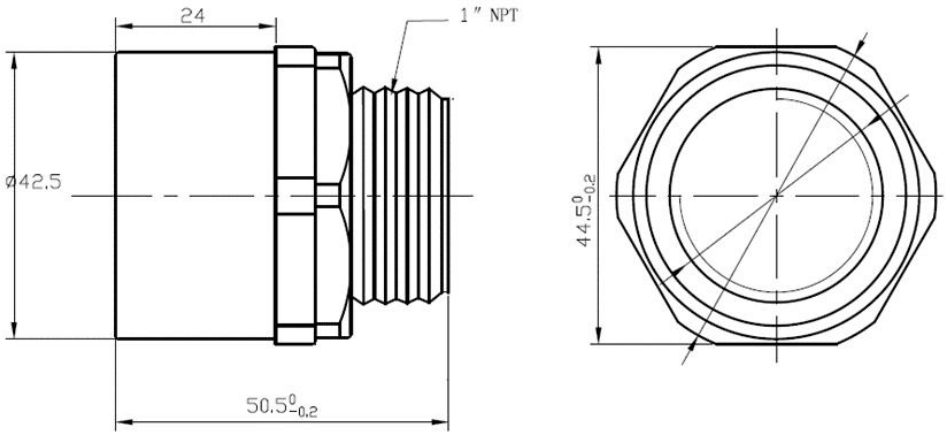
UL550 Series Ultrasonic Sensor

1. Features

- High sensitivity.
- Compact and robust structure.
- IP68 high protection rating.
- Corrosion resistant casing, suitable for corrosive medium and application

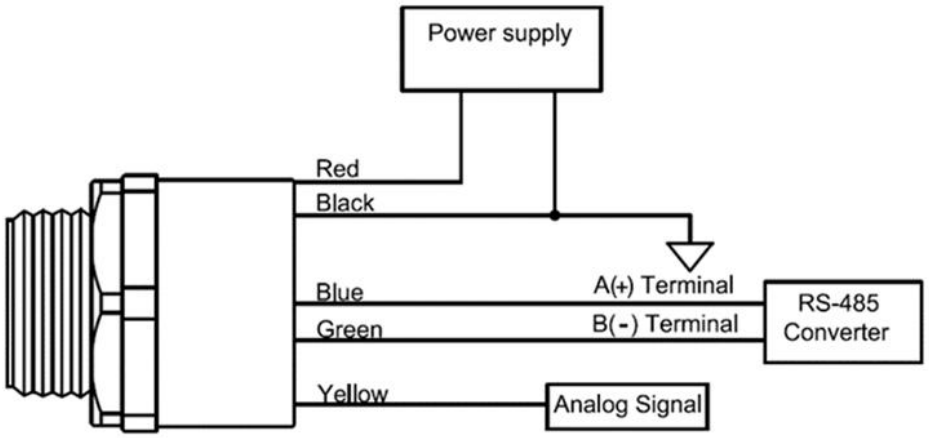
2. Dimension

Unit in the diagram is mm.



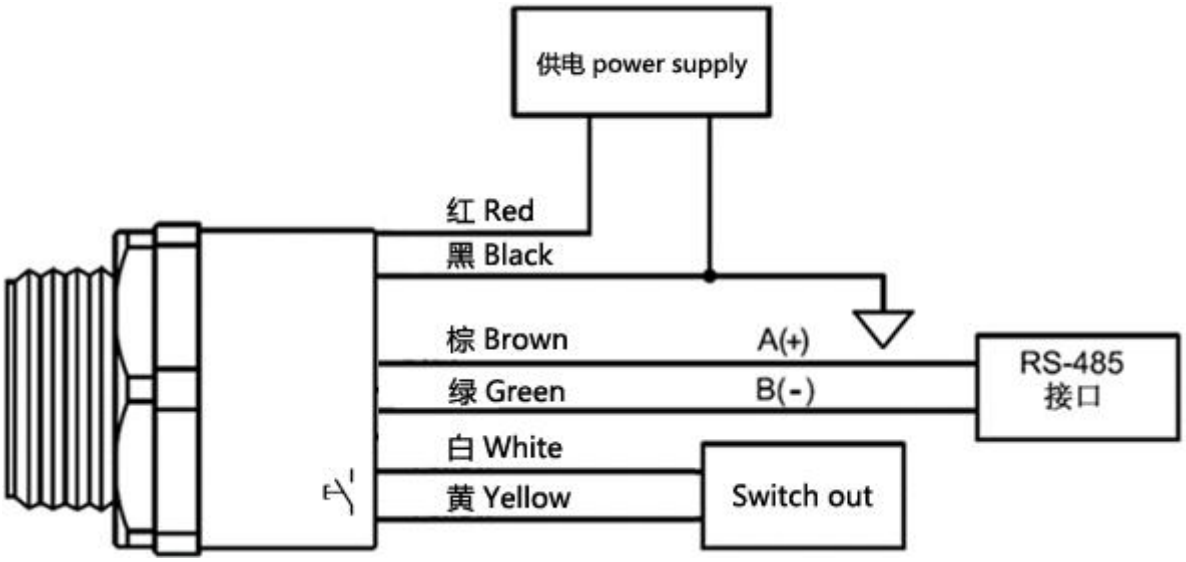
3. Electronic interface and signals definition

Analogue output type wiring diagram



Email:david@wesivo.com

Switch output type wiring diagram



4. Parameter

General specifications

Model: KUS550	
Measuring range	0.25m~3m （5m customizable）KUS550A 0.15m-0.6m（1m customizable）KUS550B；
Blind spot	The dead zone of KUS550A is 0 ... 250 mm (within 250mm is unstable working zone, it is not recommended to work in this range); the dead zone of KUS550B is 0-150mm;
Supply voltage	3.3 ... 30 VDC, ripple 10 %SS
Working current	≤ 45 mA (fastest measurement speed), typical power consumption ≤ 10 mA;
Output signal	0-10V. 0-3V 0-5V /4-20mA/NPN/PNP/RS485 Analog output.
Measurement accuracy	≤1 %F.S.
Temperature compensation	Yes
Ranging resolution	0.1mm；

Working conditions

Working temperature	-40…85℃(233...358K)

Storage temperature	-40…85℃(233...358K)

Other instructions

Electrical connection	5-core cable (analog output), 6-core cable (switch output)；
Protection class	IP68
Shell material	PVC /PVDF/PTFE/ABS

5. Description of Sensor Functions

Adjusting the analogue output.

The analogue output can be programed as the user want. Such as working at switch output or working at liner output all the parameters can be set by the RS485 interface.

There is 8 types of output functions can be programed.

All the setting routine as follows,

step 1 set one pointed distance by the RS485,

step 2 set another pointed distance by the RS485.

Step3 set the output type liner or switch, and set the related output options

Step4 reboot the sensor.

1. Window mode normally-open and liner mode positive slope output function.
2. Window mode normally-closed and liner mode negative slope output function.
3. Single switching point, normally-open function.
4. Single switching point, normally-closed function.
5. Single switch point with hysteresis gap normally-open function.
6. Single switch point with hysteresis gap normally-closed function.
7. Detection of object presence-normal open function.
8. Detection of object presence-closed open function.

Switching point, Setting distance only after power on. The internal clock can assure can't be changed after 5 minutes after power on. If want to change the switching point, the user can only setting the request distance after power restart.

For the RS485 output type.

There are 2 kinds of working style,

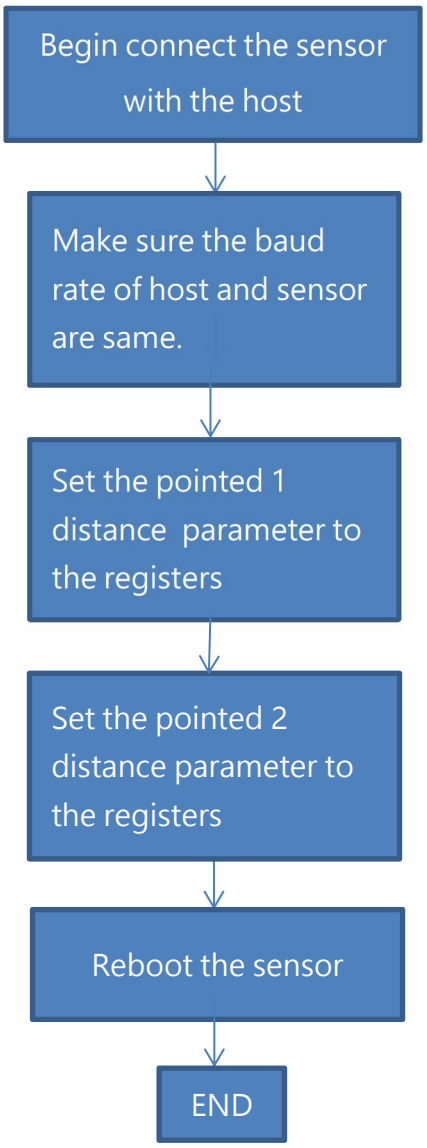
One for auto measure, the sensor will measure the distance or level repeatedly, and the measurement period can be set by the UART. The measure result can be fetched every time.

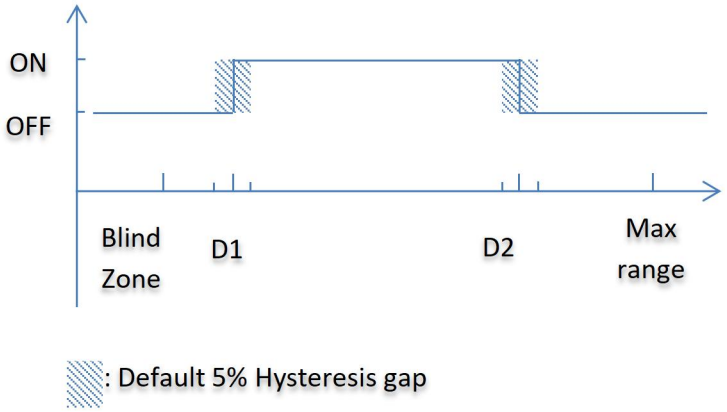
The other style is power save mode when the sensor is sleep, until the sensor received the inquiry command with pre-code. Communication protocol is Modus-RTU.

For example the measure result can be read by access the register 0x101 by Modbus protocol.

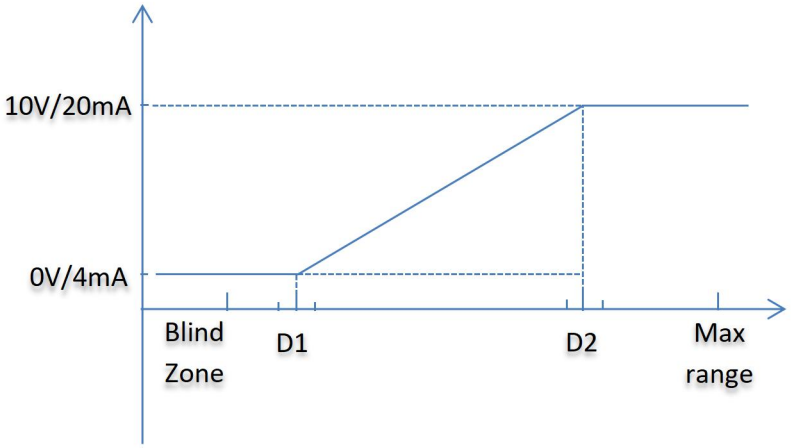
For more information please contact us for the software engineering guide.

6. Window mode normally-open and liner mode positive slope output function program routine diagram.





: Default 5% Hysteresis gap



Liner output and Program diagram

7. Installation conditions

If the sensor is installed at the environment temperature fall below 0℃, It should do well on the protective measures. In case of direct mounting of the sensor in a through hole using the steel nuts, it has to be fixed at the middle of the housing thread.

8. Ordering information

WESIVO	Model	Output	Max range	Description
	UL550			
	Customized			
		SW	Switch Output	
		mA	3 wire 4-20mA output	
		10V	Output is Vout 0-10V	
		5V	Output is Vout 0-5V	
		3V	Output is Vout 0-3V	
		RS485	Output is RS485	
		TTL	UART TTL output	
			XX m	XX m is the maxim range can be detected Default is 2.5m
WESIVO	UL550	RS485	2m	