Please refer to page 6 for detailed selection

ST50
Explosion Proof Temperature And Humidity Sensor

Product description

The temperature and humidity sensor adopts high-precision measuring components with a wide detection range, which can accurately measure temperature and humidity within the range of -40 ℃~80 ℃ and 0-100% RH. The circuit uses temperature compensation, and the product works stably and reliably.

Functional characteristics

Anti interference, high accuracy, fast response, long lifespan,

The power supply of the detector is 24V ± 10%, and the power consumption of the detector is less than 2.5W,

Using digital tubes and LED displays, it has a long service life, high brightness, low power consumption, and clear display that adapts to different lighting environments,

Multiple detector signal communication methods are available for selection,

Triple waterproof design to prevent corrosion of device interfaces,

Modular design, easy replacement, simple maintenance,

The controller adopts waterproof and dustproof connectors at the incoming line, which can effectively fix the incoming line,

Wall mounted installation, convenient for detection and disassembly

Product application

Suitable for precision industries such as farms, gas stations, mining, archives, etc., it can also accurately detect complex work in harsh environments

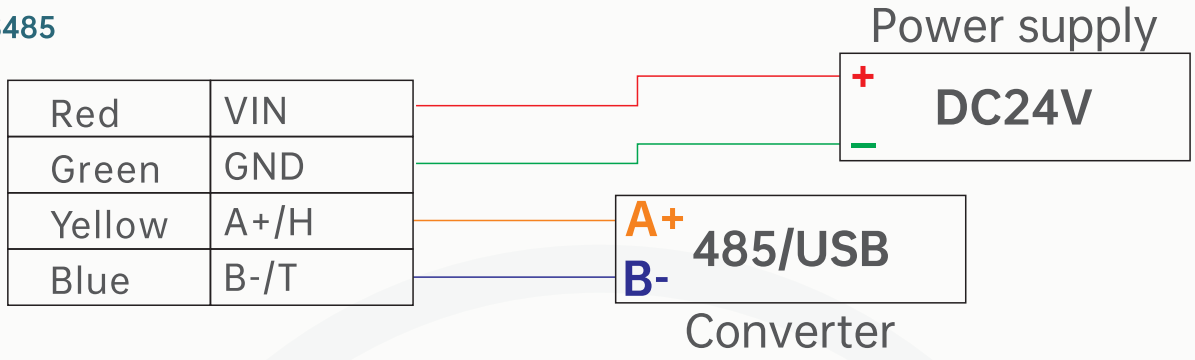
Technical parameter

Model	ST50
Product image	
RS485 temperature measurement range	-30~80℃
Current/voltage temperature measurement range	-40~60℃
Temperature measurement accuracy	±0.3℃(@25℃ 65%RH)
Moisture measurement range	0~100%RH
Humidity measurement accuracy	±3%RH (@25℃ 65%RH)
Output interface	RS485 /DC4~20mA/DC0~10V
Usage Agreement	MODBUS/DC4~20mA/ DC0~10V
Supply voltage	DC6~24V/DC12~24V /DC12~24V
Optocoupler isolation	Default none, optional
Working temperature and humidity	-40~80℃ 0~95%RH
Storage temperature and humidity	-40~80℃ 0~95%RH

Connection

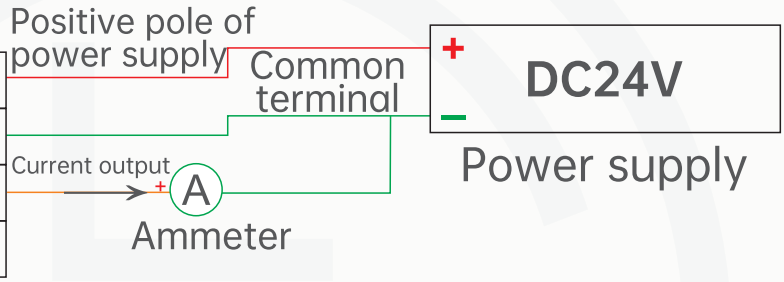
RS485

Red	VIN
Green	GND
Yellow	A+/H
Blue	B-/T



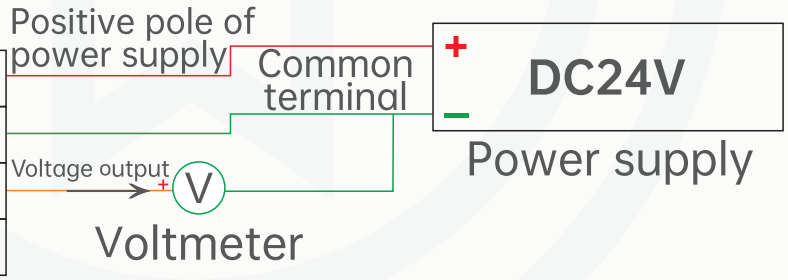
4-20mA wiring

Red	VIN
Green	GND
Yellow	A+/H
Blue	B-/T not used



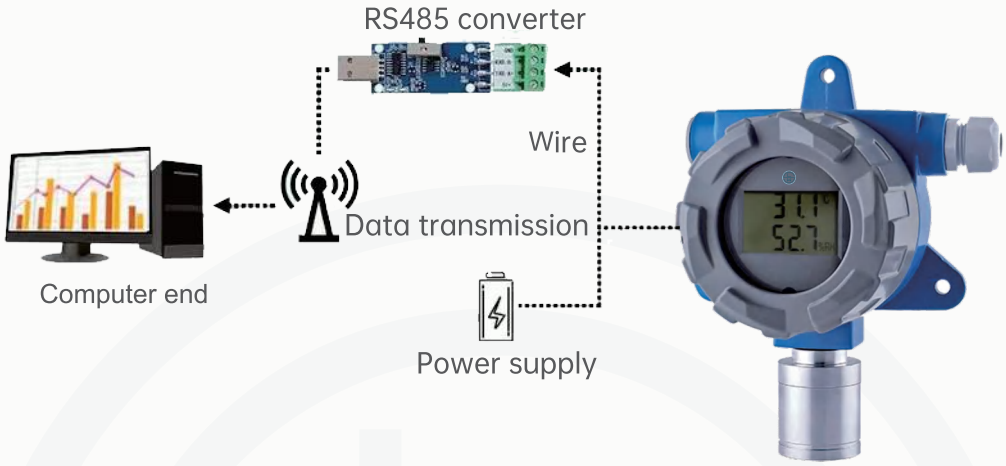
0-10V wiring

Red	VIN
Green	GND
Yellow	A+/H
Blue	B-/T

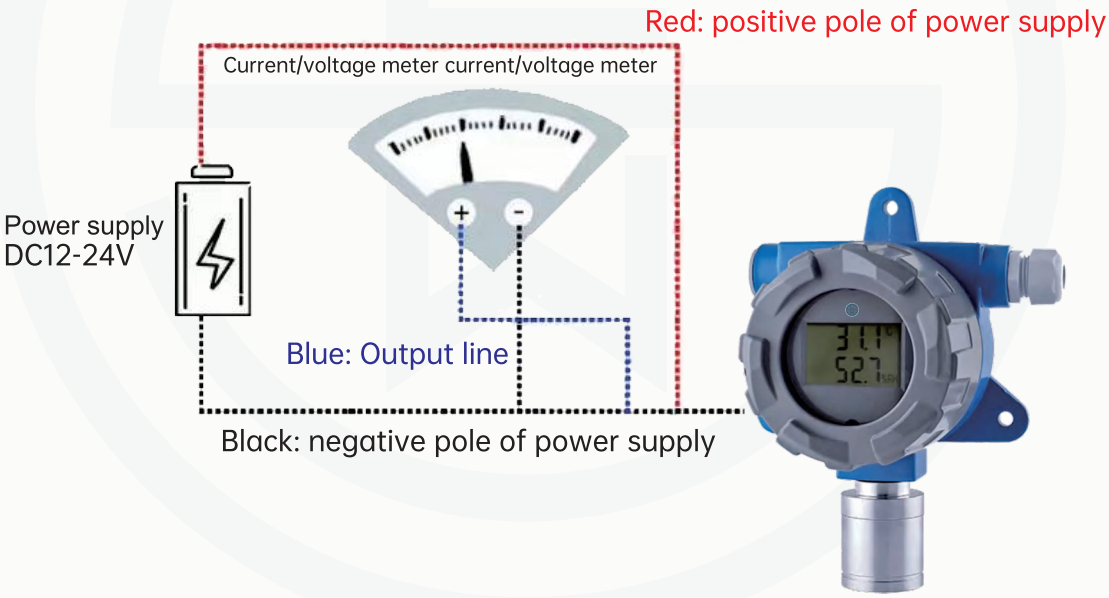


Connection

RS485 wiring method



Current/voltage application scheme



Communication protocol

All operation commands are hexadecimal data, default communication baud rate: 9600,8, N, 1

Read data function code 03

Inquiry frame (hexadecimal), send example: query 1 data from device 1 #

Command sent by the upper computer: 01 03 00 00 01 84 0A

Command description	Device address	Function code	Start address	Length	Check code
Command format	01	03	00 00	00 01	84 0A

For the correct query frame, the device will respond with data: 01 03 02 00 79 79 A6, response format:

Command description	Device address	Function code	Date 1	Date 2	Check code
Command format	01	03	02	00 79	79 A6

Data Description: The data in the command is in hexadecimal format. Taking data 1 as an example, 00 79 is converted to a decimal value of 121, assuming a data multiplier of 100,The true value is 121/100=1.21, and so on for others.

Common data address table

Configuration address	Register address	Illustrate	Data type	Value Range
40001	00 00	1 # Temperature and Humidity Register	Read-only	0~65535
40101	00 64	Model code	Read/Write	0~65535
40102	00 65	Total number of measuring points	Read/Write	1~20
40103	00 66	Equipment address	Read/Write	1~249
40104	00 67	Baud rate	Read/Write	0~6
40105	00 68	Communication mode	Read/Write	1~4
40106	00 69	Protocol type	Read/Write	1~10

ST50-Selection composition

Example of Selection **ST50** A / R / E / S / C / M (1 2 3 4 5 6)

1. Temperature measurement range	A	RS485 (-30~80℃)	
	B	Current/Voltage (-40~60 ℃)	
	T( )	Other temperature measurement ranges	
2.Moisture measurement range	R	0~100%RH	
	T( )	Other humidity measurement ranges	
3. Accuracy	E	Temperature ± 0.3 ℃	
	F	Humidity ± 3% RH	
	T( )	Other accuracies	
4.Output signal	S	RS485	
	Z	4-20mA	
	Y	0-10V	
	T( )	Other output signal	
5.Power	C	DC 6~24V	
	D	DC 12-24V	
	T( )	Other power	
6. Explosion proof certification	M	ATEX	

Instructions:

ST50 explosion-proof temperature and humidity sensor, temperature measurement range RS485 (-30~80 ℃), humidity measurement range 0~100% RH, accuracy temperature ± 0.3 ℃, output signal RS485, power supply DC 6~24V, with explosion-proof certification.

Product Certification

Compliance and approval; Ludwig pressure gauges meet key standards and certifications for process measurement technology; Thus guaranteeing the highest reliability in such Settings;

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