

**TR12 series hybrid temperature and humidity transmitter** creatively realizes the functional integration of transmitter and wireless recorder. First, when the transmitter is used, the data will be backed up continuously while the temperature and humidity data is output through 4 ~ 20 mA. If one group of data is backed up in one minute, the data can be stored for 34 days. Second, the transmitter is equipped with two ER14505 batteries, which can keep the transmitter working for 700 days in the case of abnormal external power supply. The battery maintenance cycle is 5 years. The stored data can be exported through the USB tool connected to the computer, and can also be imported into the Ciplelink continuous monitoring system through the Boron data gateway. Secondly, TR12 can work independently as a wireless data logger, transmitting data to EMS system wirelessly, with 64000 sets of cache, and the battery standby time reaches 700 days.

The R12 Series Wireless Storage Temperature and Humidity Transmitter uses independent platinum resistance thermometry and polymer film capacitance to measure humidity for accurate relative humidity and temperature measurements in closed-loop control systems such as HVAC and cleanroom applications. Applications include wall and duct mounting, with an IP65 rating for use in wet areas. Each TR1X series transmitter is individually calibrated at the factory. If necessary, the transmitter can also be calibrated in situ using a PC with a reference.

The new generation of TR12 series wireless storage temperature and humidity transmitter adds the design of hidden lead port on the back for wall installation, which is more in line with the aesthetic and protective requirements of large-scale modern indoor installation.

## Product features

- Innovative full-function hybrid transmitter for BMS/EMS with 4 ~ 20mA/RS485/wireless transmission and 64000 sets of cache.
- High standard HVAC control applications, wall mounted and pipe mounted wall mounted, with back concealed outlets, aesthetically pleasing and dust and water resistant.
- With its own battery, it can work independently (without power supply) for 700 days.
- It is equipped with high-precision RTC to ensure that the daily clock deviation is less than 1.5 seconds (above 0 °C), and it can be automatically timed through wireless.
- High performance capacitive humidity sensor.
- Accuracy  $\pm 0.15\text{ }^{\circ}\text{C}$ ,  $\pm 1.5\%\text{ RH}$ .
- 2 wire system 4 ... 20mA current output.
- Support the calibration of on-site comparison equipment.
- Excellent long-term stability.



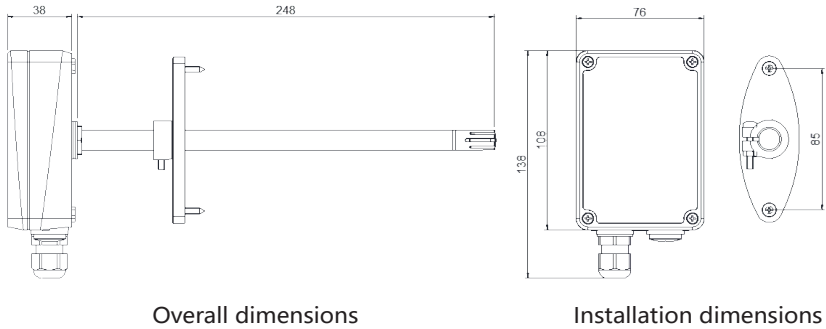
## Product parameters

Measurement parameters	Temperature sensor	PT1000/PT100 RTD F0.1 IEC 60751
	Temperature range	Max -40.. 80°C
	Maximum allowable error of temperature (20 °C)	$\pm 0.2^{\circ}\text{C}$
	Relative humidity sensor	Film capacitor with large wetness sensing surface
	Humidity range	0...100%RH
	Maximum permissible error of humidity (10 ... 30°C)	$\pm 2\%\text{RH}$ (0...90%RH) $\pm 3\%\text{RH}$ (90...100%RH)
	Response time (63%)	30s
	Typical HVAC stability	$\pm 0.5\%\text{ RH/year}$

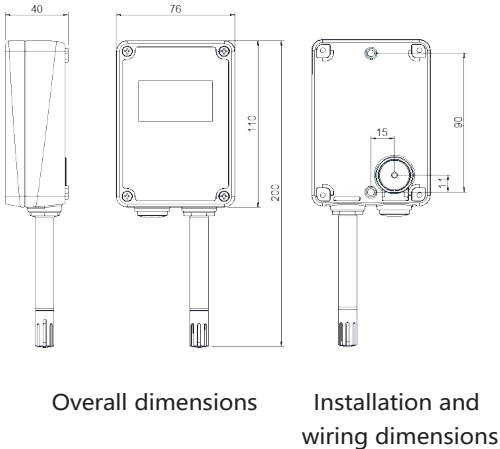
Measurement parameters	Multi-parameter output optional	Temperature/relative humidity, dew point, absolute humidity, wet bulb temperature, enthalpy
	Measurement range of dew point temperature and wet bulb temperature	-40...60 °C
	Measurement range of enthalpy	-40...460kJ/kg
	Dew point accuracy (20 °C)	±0.7°C
	Wet-bulb temperature accuracy (20 °C)	±0.5°C
	Enthalpy (20 °C)	±1.6kJ/kg
Input and output	Input	18...28VDC<1W
	Voltage output	0...5V/0...10V
	Current output	4... 20mA (2-wire loop power supply)
	Loop resistance	600 Ω Max
Mechanical and environmental parameters	Shell material	PC+GF (UL94-V0)
	Shell color	White
	Work environment	-40...60°C, 0...100%RH
	Atmospheric pressure	700...1200hpa
	Maximum wind speed	30m/s
	Storage temperature	-40...60°C
	Filter material	Plastic grid + filter membrane/stainless steel SS316
	Degree of protection	IP65
	Cable bushing	M16 * 1.5, wire diameter 4.. 8mm
	Maximum wire diameter	1.5mm <sup>2</sup>
	Electromagnetic compatibility standard	Complies with EMC standard EN61326-1 for industrial environments
Enclosure characteristics	Battery	ER14505 X2 The battery is not rechargeable. It is recommended to replace the battery/external every 2 years under battery power supply. Replace the battery after 5 years of power supply
	Atmospheric pressure	700 days
	Maximum wind speed	ISM 470MHz
	Storage temperature	-40~60°C

**Product size (mm)**

Pipe-mounted type

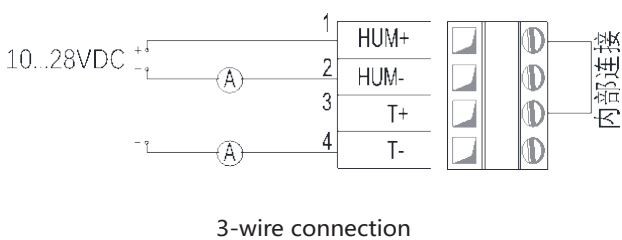
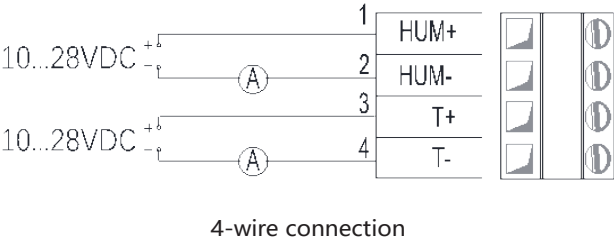


Wall mounted type

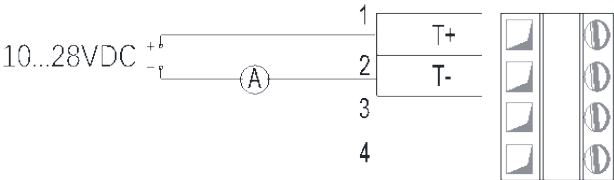


**Wiring link diagram**

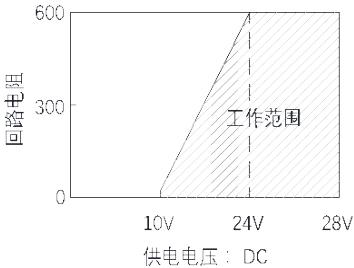
**Current output wiring of TR 12 temperature and humidity transmitter (2-wire system)**



**TR12 single temperature transmitter current output wiring (2-wire system)**



**TR12 Relationship between supply voltage and loop resistance**



## Selection table

温湿度变送器		TR12							
1.安装方式	<div> <div>墙面安装</div> <div>管道安装</div> </div>	<div>W</div> <div>D</div>							
2.测量参数	<div>温度</div> <div>温度和相对湿度</div> <div>其他：温度和露点、湿球温度、绝对湿度、焓值等</div>		<div>T</div> <div>H</div> <div>X</div>						
3.输出信号	<div>4...20mA      2 线制</div>			1					
4.温度范围	<div>- 40...60℃</div> <div>其他</div>				J		X		
5.液晶显示	有							1	
6、过滤器	<div>塑料栅格+滤膜过滤器</div> <div>不锈钢过滤器 SS316</div>								<div>1</div> <div>2</div>
7、走线方式	<div>底壳背部隐藏走线</div> <div>下部防水锁头走线（管道型仅支持该选项）</div>								<div>B</div> <div>D</div>

选型示范

TR12

W

H

1

J

1

1

B