

**TR10 series temperature and humidity transmitters** use independent platinum resistance thermometry and polymer film capacitance to measure humidity, enabling 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 TR10 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 TR10 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

- High standard HVAC control applications, wall mounted and pipe mounted.
- High performance capacitive humidity sensor.
- Accuracy  $\pm 0.2^\circ\text{C}$ ,  $\pm 2\%$  RH.
- The wall is installed with a hidden outlet on the back, which is beautiful and has dustproof and waterproof requirements.
- 2 wire system 4 ... 20mA current output.
- RS485 digital output is available.
- Show optional items.
- Support the calibration of on-site comparison equipment.
- Excellent long-term stability.

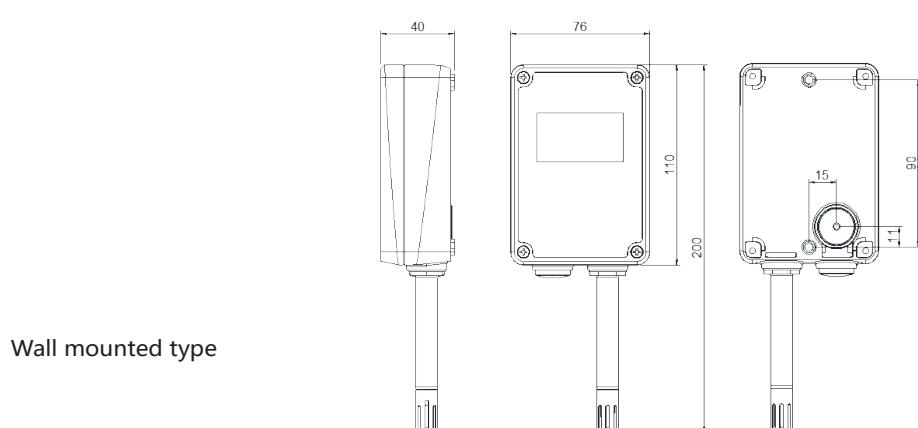
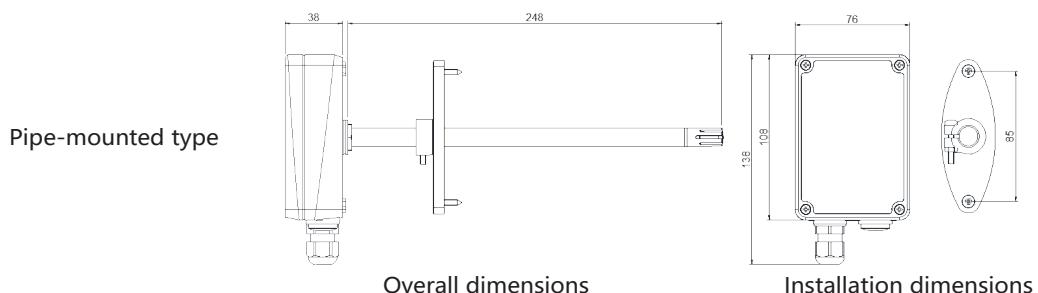


### Product parameters

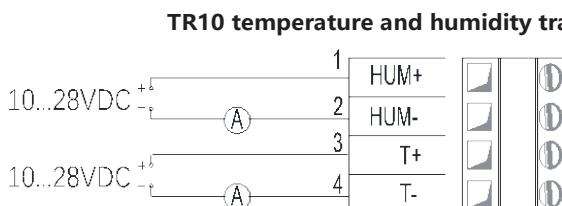
Temperature sensor	PT1000/PT100 RTD F0.1 IEC 60751
Temperature range	Max -40.. 80°C
Maximum allowable error of temperature (20 °C)	$\pm 0.2^\circ\text{C}$
Relative humidity sensor	Film capacitor with large wetness sensing surface
Humidity range	0...100%RH
Maximum permissible error of humidity (10 ... 30°C)	$\pm 2\%$ RH (0...90%RH) $\pm 3\%$ RH (90...100%RH)
Measurement parameters	Response time (63%)
	30s
Typical HVAC stability	$\pm 0.5\%$ RH/year
	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)	$\pm 0.7^\circ\text{C}$
Wet-bulb temperature accuracy (20 °C)	$\pm 0.5^\circ\text{C}$
Enthalpy (20 °C)	$\pm 1.6\text{kJ/kg}$

Input and output	Input	18...28 VDC<1W
	Voltage output	0...5V/0...10V
	Current output	4...20mA (2-wire loop power supply)
	Loop resistance	600 Ω Max
	Digital output	RS485 Modbus RTU
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

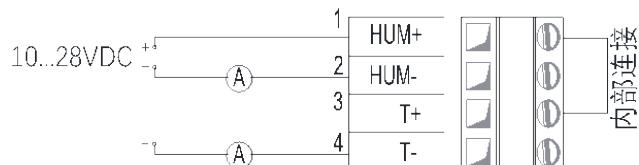
### Product size (mm)



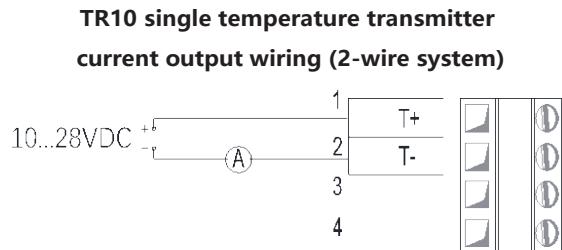
## Wiring link diagram



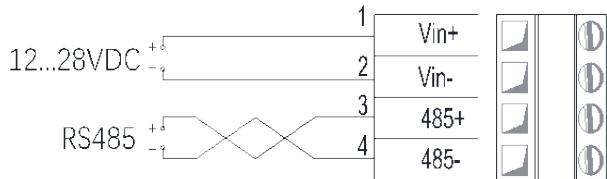
4-wire connection



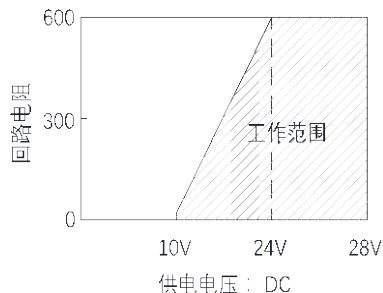
3-wire connection



**RS485 output wiring of TR10 temperature and humidity transmitter**



**TR10 Relationship between supply voltage and loop resistance**



## Selection table

温湿度变送器		TR10						
1.安装方式	墙面安装 管道安装		W					
2.测量参数	温度 温度和相对湿度 其他：温度和露点、湿球温度、绝对湿度、焓值等		T H X					
3.输出信号	4...20mA 2线制 RS485, Modbus RTU 其他			1 R X				
4.温度范围	-40...60°C 其他（含RS485输出）				J X			
5.液晶显示	有 无					1 0		
6.过滤器	塑料栅格+滤膜过滤器 不锈钢过滤器 SS316					1 2		
7.走线方式	底壳背部隐藏走线 下部防水锁头走线（管道型仅支持该选项）						B D	
选型示范		TR10	W	H	1	J	0	B