TR13 Series Temperature and Humidity Transmitter

TR13 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 50000 sets of cache, and the battery standby time reaches 700 days.

TR13 Series Wireless Storage Temperature and Humidity Transmitters use independent platinum resistance thermometry and polymer film capacitance to measure humidity for accurate relative humidity and temperature measurement 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.

Product features

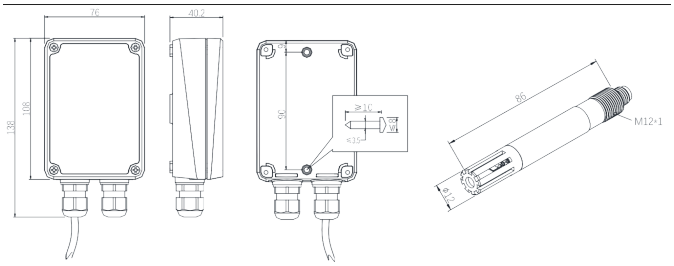
- Innovative full-function hybrid transmitter for BMS/EMS with 4 ~ 20mA/RS485/wireless transmission and 64000 sets of cache.
- High standard HVAC control applications, wall mounted and pipe mounted wall mounted, with back concealed outlets, aesthetically pleasing and dust and water resistant.
- With 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 ℃), and it can be automatically timed through wireless.
- High performance capacitive humidity sensor.
- Accuracy ± 0.15 ℃, ± 1.5% 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
	Measuring range	-40...+80℃
	Accuracy at + 20 ° C	±0.2°C/±0.1°C
	Temperature coefficient	±0.01°C/°C
	Relative humidity sensor	Polymer capacitive
	Humidity range	0...100%RH
	Humidity accuracy (10%). 30℃)	±1.5%RH (0...90%RH) ±2.5%RH (90...100%RH)
	Stability in Typical HVAC Applications	± 0.5% RH/year

	Calculated humidity parameter	Dew/frost point, absolute humidity, wet bulb temperature, enthalpy
	Measurement range of dew point temperature and wet bulb temperature	-40...60℃
	Measurement range of enthalpy	-40...460kJ/kg
	Dew point accuracy (20 ℃)	±0.5℃
Input and output	Input	18...28 VDC<1W
	Current output	4... 20 mA (2-wire loop supply)
	External circuit voltage	10.L28V（R =0Ω） 20...28V（R =500Ω）
Mechanical and environmental parameters	Transmitter operating temperature	-40... 60 ℃ without display screen -20... 60 ℃ with display screen
	Probe operating temperature	-40...80℃
	Shell material	PC+GF（UL94-V0）
	Probe material	Stainless steel 316
	Filter material	ABS grille + filter membrane/stainless steel 316
	Connect the cable	Standard 3m/Custom
	Transmitter degree of protection	IP65
	Maximum wire diameter	Screw terminal 0.5.. 1.5mm^2
	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 more than 10 days after power failure.
	Battery Standby Time	14 days
	Wireless transmission	ISM 470MHz
	Data storage capacity	64000 group

Wiring link diagram

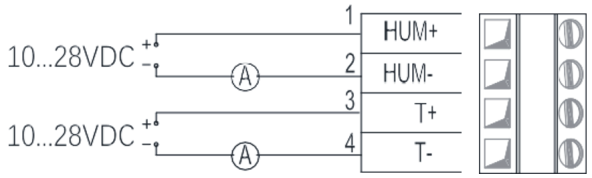


Transmitter wiring housing dimensions and mounting dimensions

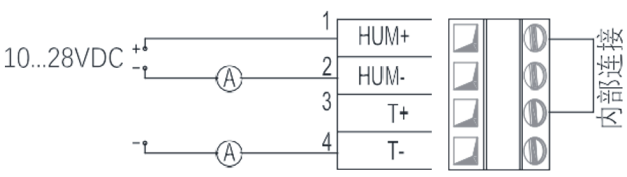
Probe size

Wiring link diagram

TR13 temperature and humidity transmitter current output wiring (2-wire system)

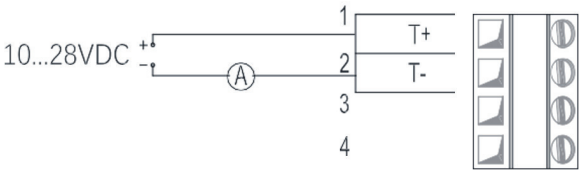


4-wire connection

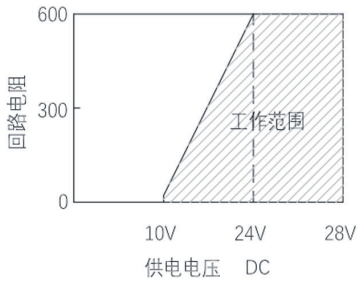


3-wire connection

TR13 single temperature transmitter current output wiring (2-wire system)



TR13 Relationship between power supply voltage and loop resistance



Selection table

温湿度变送器		TR13							
1、安装方式	远程探头，带 3 米电缆		3						
	远程探头，带 5 米电缆		5						
	自定义长度		X						
2、测量参数	温度			T					
	温度和相对湿度			H					
	其他：温度和露点、湿球温度、绝对湿度、焓值等			X					
3、输出信号	4···20mA,2 线制				1				
	其他				X				
4、量程范围	-40 ... 60℃					J			
	-20 ... 80℃					K			
	其他（含 RS485 输出）					X			
5、液晶显示	有						1		
	无						0		
6、过滤器	塑料栅格+滤膜							1	
	不锈钢 316 过滤器							2	
7、安装附件	管道安装件								A
	NPT1/2 螺纹接头								B
	变送器壳体防雨罩和探头防辐射罩								C
	无								0
	选型示范	TR13	3	H	1	J	0	1	0