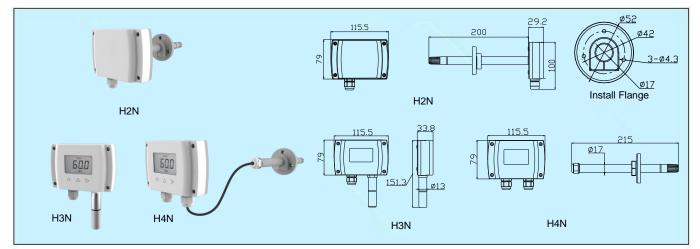
# H2,3,4N Temperature & Humidity Transmitter



# **Applications & Features**

- Humidity and temperature transmitters H2N (duct), H3N(outside) and H4N(remote) are designed for environment monitoring and controlling in industrial and commercial buildings.
- High performance digital sensors and circuits, ensure accurate measurement and temperature compensation
- Digital technology applied, multiple outputs optional, over voltage and reverse polarity protection, high reliability and anti-interference capability
- LCD display temperature and humidity alternatively
- LCD & function keys can set parameters and calibrate output, so the product can be a stand alone controller
  Good long term stability and reliability
- Good long term stability and reliability
- 100% field changeable sensor without re-calibration
- Fast response
- High protection rate up to IP65

## Specifications

#### **Relative Humidity**

Sensor: Digital polymer Range: 0~100%RH Output: see models Accuracy: 2%, 3%, (25°C, 20~80%RH) Hysteresis: <±1%RH Response time: <10s (25°C, in slow air) Drift: <±0.5%RH / year Temperature Sensor: Digital temperature sensor or RTD/thermistor Range: 0~50°C, 0~100°C, -40~60°C, or others

 Output: see models

 Accuracy: transmitter: ≤±0.4°C @ 5~60°C or 0.3°C @ 5~60°C

RTD or thermistor: typical 0.2~0.4°C@ 25°C, see models

Power: Current: 18.5~35VDC (R<sub>load</sub>=500Ω) 8.5~35VDC (R<sub>load</sub>=0Ω) Voltage: 16~28VAC/ 16~35VDC Output Load: ≤500Ω (current), ≥2KΩ (voltage) Relay output: 2×SPST, 3A/30VDC, 3A/250VAC Display and keys: 4 digits LCD, with unit indication, backlight (4-20mA N/A), 3 touch keys, see more details on LCD & Keys operation Work Temp.: -30~70°C(LCD:0~50°C) 5~95%RH (Non condensing) Housing: Fireproof ABS housing, UHMW-PE filter(H2/H4N), SS probe and sintered filter(H3N) Protection: IP65 Weight: H2N:360g;H3N:270g;H4N:430g Approval: CE

#### Models

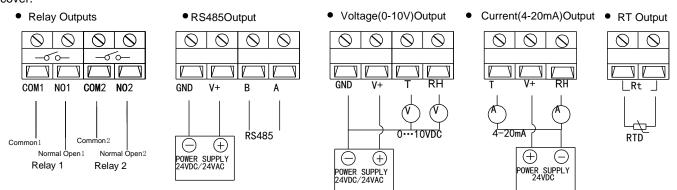
Model         H2N         Image: boot of the sector of the									
Model         H3N         I         I         I         I         Outside air Temp./RH transmitter           RH Ac- curacy         2         I         I         I         #2%RH(0.3°C)           Curacy         3         I         I         #2%RH(0.4°C)           RH Output         1         I         I         #2%RH(0.4°C)           RH Output         1         I         I         I         I           RH Output         1         I         I         I         I           RH Output         I         I         I         I         I         IIII           I         I         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		H2N							
Hodel         H3N         transmitter           H4N         H4N <td< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
H4N       H	Model	H3N							
H4IN         RH         RH transmitter           RH Ac- curacy         2         3         1         4         4         42%RH(0.3°C)           RH Output         3         1         4         4         42%RH(0.3°C)           RH Output         2         4         4         42%RH(0.4°C)           RH Output         8         4         0-10VDC(3 wires)           8         4         420mA(2 wires)           RS485/Modbus         8         420mA(2 wires)           1         1         0         0-10VDC(3 wires)           4         2         420mA(2 wires)           7         3         971000, ±0.2°C@25°C           97100, ±0.2°C@25°C         97100, ±0.2°C@25°C           7         4         97100, ±0.4°C@25°C           8         7         NTC10K-II, 0.4°C@25°C           8         8         RS485/Modbus           9         9         NTC10K-II, 0.4°C@25°C           8         8         RS485/Modbus           9         1         0-50°C           8         9         NTC10K-II, 0.4°C@25°C           8         3         9         0-100°C           9         1         0-50									
RH Ac- curacy         2         3         4         ±2%RH(0.3°C) ±3%RH(0.4°C)           RH Output         1         0         0-10VDC(3 wires)           8         0         No           8         0         No           1         0         0-10VDC(3 wires)           4-20mA(2 wires)         8           8         0           1         0-10VDC(3 wires)           4-20mA(2 wires)           8         2           1         0-10VDC(3 wires)           4-20mA(2 wires)           9         0-10VDC(3 wires)           4-20mA(2 wires)           9         PT1000, ±0.2°C@25°C           NTC20K,±0.4°C@25°C           NTC10K-II, 0.4°C@25°C           NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-II, 0.4°C@25°C           7         NTC10K-A, 0.4°C@25°C           8         RS485/Modbus           9         NC10°C           1         0-50°C           1         0-50°C           1         0-100°C           3         -40-60°C           7         others           8         0         No <th></th> <td>H4N</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		H4N							
curacy         3         I         I         ±3%RH(0.4°C)           RH Output         1         2         I         0         0-10VDC(3 wires)           8         0         No         RS485/Modbus           Image: Second			_						
RH Output         1 2 8         0 0         0-10VDC(3 wires) 4-20mA(2 wires) RS485/Modbus           Temp. Output         0 1         0 0         No           4         0         0.010VDC(3 wires) 4-20mA(2 wires)           2         4-20mA(2 wires)           2         4-20mA(2 wires)           3         PT1000, ±0.2°C@25°C           7         NTC20K,±0.4°C@25°C           NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-II, 0.4°C@25°C           7         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-A, 0.4°C@25°C           7         NTC10K-A, 0.4°C@25°C           8         Rs485/Modbus           9         NTC10K-A, 0.4°C@25°C           7         0           8         Relay           1         0-50°C           7         0           7         0           7         0           8         -40-60°C           7         0           8         1           9         N/A           1         2×SPST(4-20mA           1         2×SPST(4-20mA			_						· · · · ·
RH Output         2         4         4-20mA(2 wires) RS485/Modbus           Rsubstance         0         0         No           No         1         0         0         0           1         2         4         0         0           2         4         0         0         0           2         4         0         0         4/20mA(2 wires)           4         2         4         4/20mA(2 wires)           9         7         9         0         100, ±0.2°C@25°C           00tput         5         0         NTC20K,±0.4°C@25°C           1         6         Ni 1000, ±0.4°C@25°C         NTC10K-II, 0.4°C@25°C           8         8         RS485/Modbus         NTC10K-II, 0.4°C@25°C           8         9         NTC10K-III, 0.4°C@25°C           8         9         NTC10K-A, 0.4°C@25°C           8         1         0         0           9         1         0         0           1         0         0         No           1         2         0         0           1         2         0         0           1         2	curacy		3						
Output         2         8         4-20mA(2 wires) RS485/Modbus           Image: Second system         0         No         No           Image: Second system         0         Image: Second system         No           Image: Second system         0         Image: Second system         No           Image: Second system         0         Image: Second system         No           Image: Second system         1         Image: Second system         No           Image: Second system	RH			-					
Temp. Output         8         1         0         1         0         0         1         0         1         0         0         0         1         0         0         1         0         0         1         0         0         1 <t< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>. ,</td></t<>									. ,
Temp. Output         1         1         0-10VDC(3 wires)           3         2         4-20mA(2 wires)           3         4         PT1000, ±0.2°C@25°C           4         PT100, ±0.2°C@25°C           5         NTC20K,±0.4°C@25°C           6         Ni 1000, ±0.4°C@25°C           7         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           8         NTC10K-III, 0.4°C@25°C           8         NTC10K-A, 0.4°C@25°C           8         NTC10K-III, 0.4°C@25°C           8         NC           9         NTC10K-III, 0.4°C@25°C           8         NC           9         NTC10K-III, 0.4°C@25°C           8         NC           9         NO           9         NO           1         0-50°C           2         0-100°C           3         -40-60°C           7         others           8         0         No           2×SPST(4-20mA         N/A)           1         0         N/A)	•			8					RS485/Modbus
Temp. Output         2         4-20mA(2 wires)           3         4         PT1000, ±0.2°C@25°C           4         PT1000, ±0.2°C@25°C           5         NTC20K,±0.4°C@25°C           6         Ni 1000, ±0.4°C@25°C           7         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           7         0         No           22         0-100°C           33         -40-60°C           7         others           8         0         No           2         0         No           2         0         Nc           3         -40-60°C         0           1         2×SPST(4-20mA           1					-				No
Temp. Output         3         4         PT1000, ±0.2°C@25°C           5         4         PT100, ±0.2°C@25°C           6         NTC20K,±0.4°C@25°C           6         NTC10K-II, 0.4°C@25°C           7         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           8         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           8         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           8         0           9         NTC10K-III, 0.4°C@25°C           7         O           1         0-50°C           2         0-100°C           3         -40-60°C           7         others           8         0         No           2 × SPST(4-20mA         N/A)           LCD &         0         No					•				0-10VDC(3 wires)
Temp. Output         4         FT100, ±0.2°C@25°C           6         NTC20K,±0.4°C@25°C           6         NTC10K-II, 0.4°C@25°C           7         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           8         0           9         NTC10K-III, 0.4°C@25°C           8         0           9         0           1         0-50°C           3         -40-60°C           7         others           8         0         No           1         2×SPST(4-20mA           N/A)         N/A)									4-20mA(2 wires)
Temp. Output         S         NTC20K,±0.4°C@25°C           6         Ni 1000, ±0.4°C@25°C           7         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           A         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           7         NTC10K-A, 0.4°C@25°C           7         O           8         0           1         0-50°C           2         0-100°C           3         -40-60°C           7         others           8         0         No           2         0         Nc           2         0         No           2         0         No           2         0         No           2         SPST(4-20m					-				PT1000, ±0.2°C@25°C
Output         5         6         NTC20K,±0.4°C@25°C           6         Ni 1000,±0.4°C@25°C         Ni 1000,±0.4°C@25°C           7         NTC10K-II, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           8         RS485/Modbus           9         NTC10K-III, 0.4°C@25°C           7         NTC10K-III, 0.4°C@25°C           8         9           9         NTC10K-III, 0.4°C@25°C           8         0           9         NO           9         0           1         0-50°C           0         No           1         0-50°C           0         -40-60°C           7         others           8         1         2×SPST(4-20mA           N/A)         N/A)									PT100, ±0.2°C@25°C
Temp.       6       6       0       Ni 1000, ±0.4°C@25°C         8       7       8       RS485/Modbus         9       NTC10K-III, 0.4°C@25°C         8       9       NTC10K-III, 0.4°C@25°C         8       9       NTC10K-III, 0.4°C@25°C         9       NTC10K-III, 0.4°C@25°C         7       0       No         9       0       No         1       0-50°C       0-100°C         3       -40-60°C       -40-60°C         7       others       0         Relay       1       0       2×SPST(4-20mA         N/A)       N/A)       N/A)					5				NTC20K,±0.4°C@25°C
Temp.       8       8       RS485/Modbus         9       NTC10K-III,0.4°C@25°C         A       NTC10K-A, 0.4°C@25°C         Temp.       0       No         Range       2       0-100°C         3       -40-60°C         7       others         Relay       0       No         LCD &       0       No					6				Ni 1000, ±0.4°C@25°C
9         NTC10K-III,0.4°C@25°C           A         NTC10K-A, 0.4°C@25°C           NTC10K-A, 0.4°C@25°C         NTC10K-A, 0.4°C@25°C           Temp.         1         0           Range         1         0           7         0-100°C           7         others           8         1         2           8         1         0           1         2         0-100°C           3         -40-60°C           7         others           8         1         1           1         2×SPST(4-20mA           N/A)         N/A)					7				NTC10K-II, 0.4°C@25°C
Temp. Range         A         0         NTC10K-A, 0.4°C@25°C           V         0         0         No           2         0         0-50°C           3         -40-60°C           7         others           0         1         2×SPST(4-20mA           N/A)         NA           LCD &         0         0					8				RS485/Modbus
Temp. Range         0         No           2         0         0.50°C           3         -40-60°C           7         others           Relay         0         No           LCD &         0         0         No					9				NTC10K-III,0.4°C@25°C
Temp. Range         1         0-50°C           2         0-100°C           3         -40-60°C           7         others           Relay         0         No           LCD &         0         No				-	Α			-	NTC10K-A, 0.4°C@25°C
Temp. Range         2         0-100°C           3         -40-60°C           7         others           Relay         0         No           LCD &         0         0         No						0			No
Range         2         0         0-100°C           3         -40-60°C         -40-60°C           7         others           Relay         0         No           LCD &         0         No	•					1			0-50°C
Relay         0         No           LCD &         0         0         No									0-100°C
Relay         0         No           LCD &         0         0         No									-40-60°C
Relay         1         2×SPST(4-20mA           LCD &         0         No						7			others
LCD & 0 No	Bolov						0		No
LCD & 0 N/A)							1		2×SPST(4-20mA
Kevs	LCD &							0	No
	Keys							1	LCD
2 LCD & Keys	-							2	LCD & Keys

\*1. H2,3,4N series current products are powered by RH circuit, so the RH circuit must be powered. Otherwise it could not work.

\*2. Only when the temperature output is 1 or 2, the temperature range 1-7 is applicable. Otherwise, always use 0 as temperature range selection.
\*3. See resistance table on page 1 of this catalog.

### **Connection:**

Different models have different electrical terminals. Please wire specific model according to the wiring diagram inside the front cover.

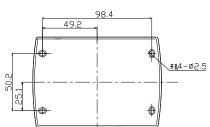


\*Current 4-20mA Output: terminal RH loop should be connected, otherwise the transmitter can not work.

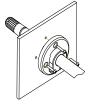
#### Installation:



<u><u><u>s</u></u> <u><u>a42</u> <u><u>a42</u> <u><u>a42</u> <u><u>a42</u> <u><u>a42</u></u></u></u></u></u></u>

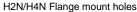


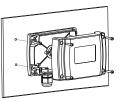
H2N/I



H2N Flange mount

Flange mount for the remote probe of H4N





H4N Surface mount



H3N Surface mount

- H3/4N's housing should be installed vertically on the wall, with the sensor probe downward. It should be far away from any heat/cool sources. If needed, there should be a shield to prevent the sensor from direct sun light and rain. Drill 4 holes on the wall according to the dimensions. Install the H3/4N base with the 4 screws after remove the front cover. H4N's remote probe can also be installed with flange kit, same as H2N.
- Open the front cover, install the drain on the base and take the wires from DDC/PLC, etc. into the base through the drain, then finish wiring according to the diagram inside the cover and restore the front cover. Make sure to install the drain with the base and the base with the front cover all completely air-tight (there are two seal rings between the drain and the base, and the front cover and the base), to prove the whole housing can meet up to IP65.

#### Attention:

It should be power OFF during installing and wiring. When using 24VAC, it is strongly recommended to power the unit with independent transformer. If sharing a 24VAC transformer with other equipments such as controllers, transmitters or actuators, please make sure the terminals 24V and GND are connected correctly. Otherwise, it will perhaps reduce serious damages.

#### Warranty:

- It has limited warranty for eighteen (18) months after the production date.
- It does not extend to any unit that has been subjected to misuse or accident.
- It is, in any event, strictly limited to the replacement or repair of the product itself.



#### Shenzhen TEREN Control Technology Co. Ltd.

Add: 3F, 2nd Industrial Zone, Nankeng, Longgang District, Shenzhen, Guangdong, P.R.CHINA Tel: 0755-23935155 Fax: 0755-23935156 web: www.teren.com.cn





Alibaba shop