# HTX99R Series

## Humidity & Temperature Transmitters for Chamber Applications for High temp & High humidity Applications

### FEATURES

- Remote probe type
  - Probe length (133, 223, 338mm)
  - Cable length 2m (max 10m)
- High density stainless steel mesh filter
- Easy field calibaration
- Wide temperature range (-50...200℃), Max. 200℃(Short term)
- RS485 Network function (Modbus RTU/ASCII)
- Free support Monitoring S/W (DynaviewHTX)
- 4~20mA output (RH, T)
- FND Display & Set switch

HUMITRON® HTX99R series is a suitable model for test chamber or fiber drying process which uses high temperature and humidity.

The humidity element developed for high temperature and humidity can realize regular precision at wide range through temperature compensation.

It transmits the data in real time at control and system through RS485 communication function, and it can do precise control, efficient monitoring.

Plug-in terminal block is applied for easy wiring and service and it is possible to use the input power either 15~24Vdc or 12~24Vac

### APPLICATIONS

- High humidity & Temp Measurement
- Chamber
- Dry process

**( MF500 FLANGE )**

### SPECIFICATIONS

| Item \ Model | | HTX99R |
|---|---|---|
| Humidity | Measure range | 0...100% RH |
| | Accuracy | including hysteresis, non-linearity and repeatability, traceable to intern.<br>order spec. : ±1.0%RH (0...90%RH) ±2.0%RH (90...100%RH)<br>standard : ±2.0%RH (0...90%RH) ±3.0%RH (90...100%RH) |
| | Response | with filter at 20°C < 15 sec. |
| | Output | 4...20mA (3-wire) |
| Temperature | Measure range | -50 ... 200 °C (Factory setting:-50...200℃,user can be set) |
| | Accuracy at 25℃ | ± 0.2 °C |
| | Repeatibility | ± 0.1 °C |
| | Response | Max. 30 sec. |
| | Output | 4..20mA (3-wire) |
| Function | | sensor fault, RS485 Network, 1,2,3 point calibration |
| Power supply | | 15...24Vdc or 12...24Vac |
| Dimension(W×H×Dmm) | | 120×80×60, without cable grand & probe |
| Network(BPS,Protocol) | | 4800,9600,19200 BPS / MODBUS-RTU(ASCII) |
| Cable grand | | PG9 (black, 3~6.5mm) |
| Wiring | | pluggable screw terminals up to max. 1.5mm$^2$ (AWG 16) |
| Protection Filter | | Brass mesh filter |
| Storage & Operation cond. | | -40 ~ 60℃ (Electric part) |
| Housing | | Ploy carbonate (IP65) |
| Weight | | 60g |


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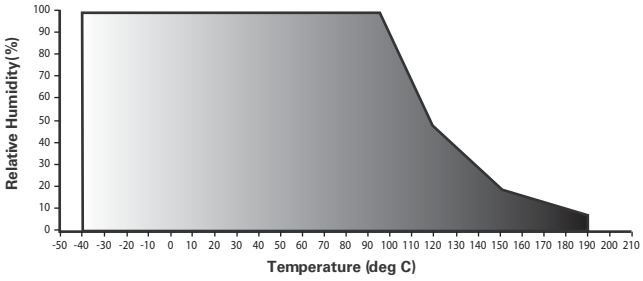
## Product image

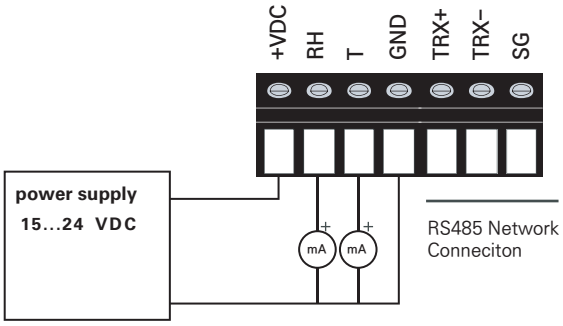
( HTX99R )

( HTX99R-OEM )

## Working Range




## Connection Diagram

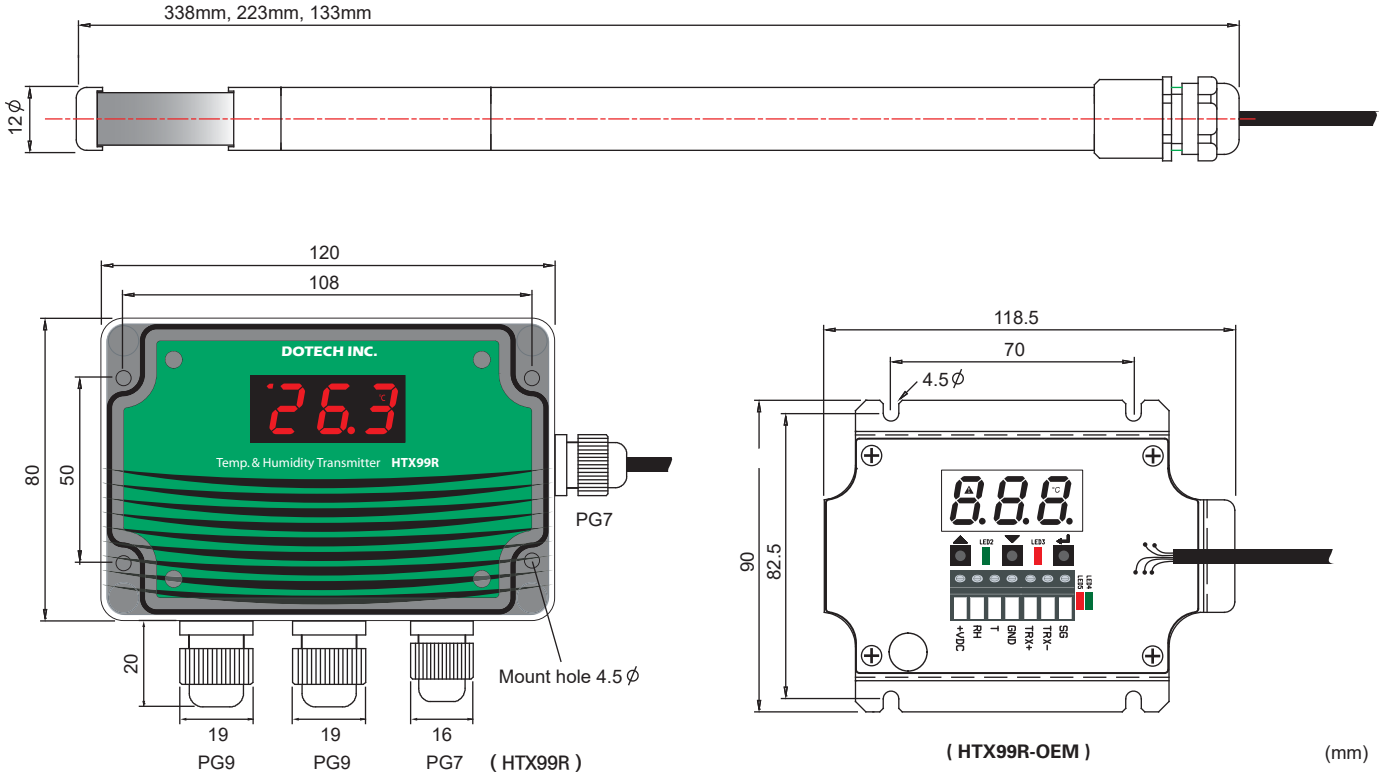



## Ordering Guide

| Series | Model | Cable length | Probe length | Calibration | Description |
|---|---|---|---|---|---|
| HTX99R | | | | | HUMITRON® HTX Series Transmitters |
| HTX99R-OEM | | | | | HUMITRON® HTX Series Transmitters OEM Model |
| | FTC | | | | Humidity + Temperature 4~20mA |
| | | 2m | | | Cable length : 2 m |
| | | 5m | | | Cable length : 5 m |
| | | 10m | | | Cable length : 10 m |
| | | | L | | 338mm |
| | | | M | | 223mm |
| | | | S | | 133mm |
| | | | | - | Standard |
| | | | | CA1 | ±1.0%RH Humidity Calibration |

HTX99R-FTC-2m-L :
Humidity(4~20mA),
Temperature(4~20mA),
Remote Probe 338mm, Remote Cable 2m

## OUTLINE DIMENSION




## Pre-caution for use

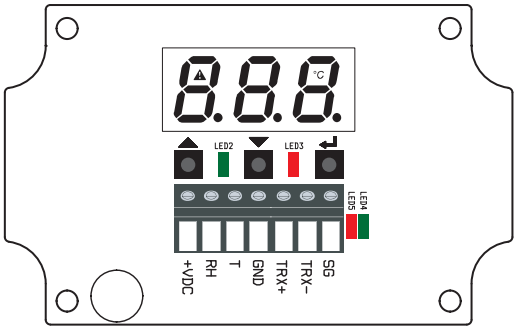
1. This product may cause an electric shock in handling. Please do not attempt to open it with power turned on.
2. This product should be installed in a place fixed secured by a rack or panel.
3. This product can be used under the following environmental condition
   ① Indoor ②Pollution Degree 2 ③At an altitude of 2000m or below ④Installation Category II
4. To turn on or turn off power supply for this product, please the circuit breaker or switch of a standard product of IEC 60947-1 or IEC 60947-3 product and install it within a close distance allowing convenient operation by user.
5. Please be understood that if this product is dismantled or modified discretionary, after sales service will not be able to be provided.
6. An output wire to be used for this product should be inflammable grade FV1 (V-1 grade or above), the thickness of the wire should be AWG No. 20 or above. (0.50㎟)
7. In order to prevent it from an inductive noise, please maintain the high-voltage wire and power wire separated.
8. Please avoid installing the product in a place where a strong magnetism, noise, severe vibration and impact exist.
9. When extending the sensor wire, use a shield wire and do not extend it unnecessary long.
10. The sensor wire and signal wire should be away from the power and load wires using conduits separately installed.
11. Please avoid using the product near a device generating strong high frequency noise (high-frequency welding machine, high-frequency sewing machine, high-frequency radiotelegraph, high capacity SCR controller)
12. PRODUCT'S DAMAGES OTHER THAN THOSE DECRIBED IN THE GUARANTEE CONDITIONS PROVIDED BY THE MANUFACTURER SHALL NOT BE RESPOINSIBLE BY US.

※The Aforementioned precautions must be observed, and if you fail to do so, it may cause a product's breakdown.

## ACCESSORIE OPTIONS

| | | |
|---|---|---|
| Mount Flange | MF-500 | Stainless steel mounting flange |
| Mount Flange | MF-200 | Plastic mounting flange |
| Protection Filter | FT-900 | Stainless mesh filter for high humidity |
| Protection Filter | FT-800 | Stainless sinterd filter for dryer |

## LED DISPLAY & SWITCH FUNCTION




| | |
|---|---|
| LED2 | Green LED : Low speed flickering in operation<br>High speed flickering in calibration mode |
| LED3 | Red LED : Power Lamp |
| LED4 | Green LED : Turn on it has receiving data in RS485 comm. |
| LED5 | Red LED : Turn on it has sending data in RS485 comm. |
| °C | Turn on at display temperature |
| ⚠ | Turn on at alarm(sensor fault) sensing |

| | | | |
|---|---|---|---|
| ▽ △ | Menu movement increase or decrease setting | ↵ | Use at parameter change |

## Alarm message and management

| | | | |
|---|---|---|---|
| toP | Temperature sensor open fault | tSh | Temperature sensor short fault |

※ Temperature sensor replacing and recalibration.

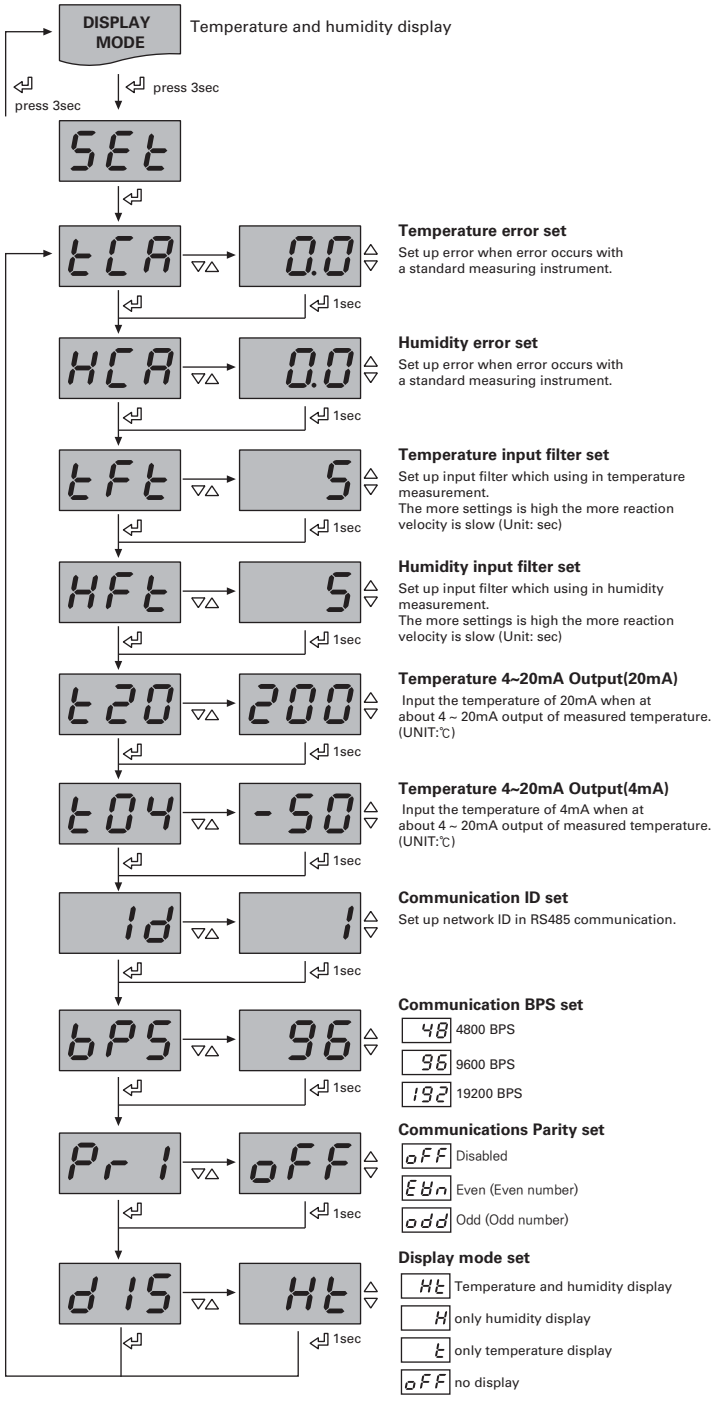
| | | | |
|---|---|---|---|
| HoP | Humidity sensor open fault | HSh | Humidity sensor short fault |

※ Humidity sensor replacing and recalibration.

| | | | |
|---|---|---|---|
| tCE | Temperature calibration factor error | HCE | Humidity calibration factor error |

※ Calbration data reset and recalibration.

## Basic parameter change mode




**Temperature error set**
Set up error when error occurs with a standard measuring instrument.

**Humidity error set**
Set up error when error occurs with a standard measuring instrument.

**Temperature input filter set**
Set up input filter which using in temperature measurement.
The more settings is high the more reaction velocity is slow (Unit: sec)

**Humidity input filter set**
Set up input filter which using in humidity measurement.
The more settings is high the more reaction velocity is slow (Unit: sec)

**Temperature 4~20mA Output(20mA)**
Input the temperature of 20mA when at about 4 ~ 20mA output of measured temperature. (UNIT:℃)

**Temperature 4~20mA Output(4mA)**
Input the temperature of 4mA when at about 4 ~ 20mA output of measured temperature. (UNIT:℃)

**Communication ID set**
Set up network ID in RS485 communication.

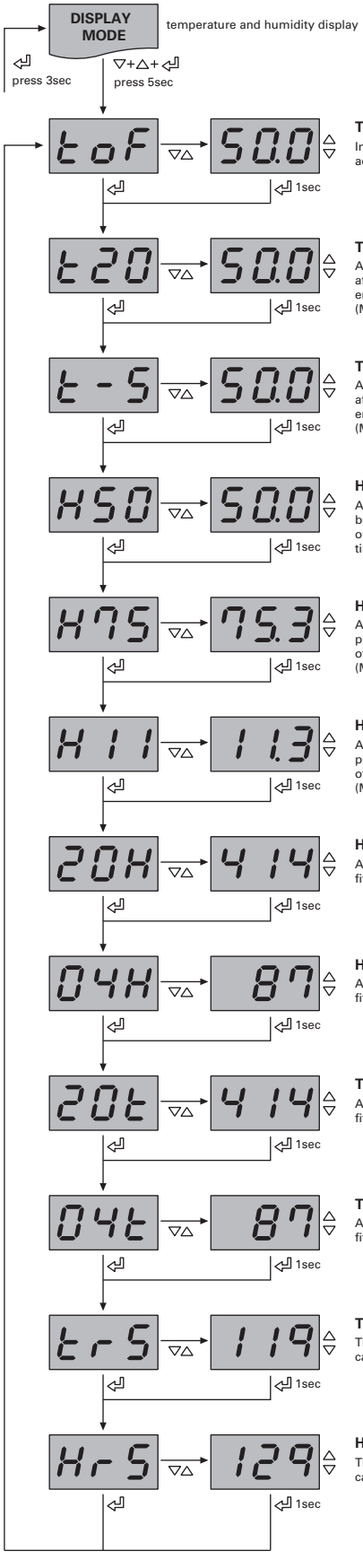
**Communication BPS set**
- 48 4800 BPS
- 96 9600 BPS
- 192 19200 BPS

**Communications Parity set**
- oFF Disabled
- Evn Even (Even number)
- odd Odd (Odd number)

**Display mode set**
- Ht Temperature and humidity display
- H only humidity display
- t only temperature display
- oFF no display

## Calibration parameter change mode

We arrange shipment after finishing all correction. So, we reco mmend that only use at replacing sensor and need precise correction.
In general, please use error setting for temperature and humidi ty measurement of basic parameter




**Temperature Cal. offset set**
In case of occurrence of offset error, adjust it like a display using ▲,▼ button.

**Temperature Cal. set 200.0。C**
Adjust it like a display using ▲,▼ button, after keeping up sensor probe in over 100.0℃ environmental conditions for a certain time (Min. 30 minutes).

**Temperature Cal. set -50.0。C**
Adjust it like a display using ▲,▼ button, after keeping up sensor probe in below 25.0℃ environmental conditions for a certain time (Min. 30 minutes).

**Humidity Cal. set 50.0%**
Adjust to fit 50.0 in display part using ▲,▼ button, after keeping up probe at chamber or correction agents of 50.0% for a certain time (Min. 30 minutes).

**Humidity Cal. set 75.3%**
Adjust using ▲,▼ button, after keeping up probe at chamber or correction agents of 60.0% for a certain time (Min. 30 minutes)

**Humidity Cal. set 11.3%**
Adjust using ▲,▼ button, after keeping up probe at chamber or correction agents of 30.0% for a certain time (Min. 30 minutes).

**Humidity retrans. 20mA Cal.**
Adjust humidity transmission output to fit 20.00mA.

**Humidity retrans. 4mA Cal.**
Adjust humidity transmission output to fit 4.00mA.

**Temperature retrans. 20mA Cal.**
Adjust temperature transmission output to fit 20.00mA

**Temperature retrans. 4mA Cal.**
Adjust temperature transmission output to fit 4.00mA

**Temperature Cal. Data reset**
This function is for returning temperature calibration data to prior correction data.

**Humidity Cal. Data reset**
This function is for returning humidity calibration data to prior correction data.