

**HUMITRON®**  
Temperature/Humidity Sensor & Transmitter

# HTX series

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**DOTECH**  
SENSING & CONTROL

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## HTX20 series Economical Module Type Temperature and Humidity Sensor

HUMITRON® HTX20 series, OEM type product line, are modules for sensing temperature and humidity with reasonable price, high precision and high quality. They are ideal for various application because of excellent stability. Their design reminds shuttle spacecraft. They are intended to minimize spatial constraints through compact-slip design when installed on HVAC or control equipment. HUMITRON® HTX20 series are plug connection type. They can detect relative humidity, temperature and dew point by measuring.



### Features

- Integration of temperature and humidity measurement function
- Easy to be applied to the system
- Compatibility plug-in design
- Easy to install, Compact design, Slim size
- 3m cable for free

### Applications

- Thermo-hygrostat, Humidifier / Dehumidifiers
- Automation equipment / Equipment appliance / Medical appliances
- Air supply and exhaust equipment
- Equipment to collect temperature and humidity data

### Technical data & Model

- Range: 0~100%RH / -10~60°C
- Accuracy: ±3.0%RH / ±0.5°C
- Power input: 9~32Vdc / 12~24Vac
- Output: 4~20mA (2 wire)

- HTX20-FTS-502: Humidity (1~3.6V), NTC5Kohm Passive
- HTX20-FTS-103: Humidity (1~3.6V), NTC10Kohm Passive
- HTX20-FTS-1K: Humidity (1~3.6V), NTC1Kohm Passive
- HTX20-FTS-PT100: Humidity (1~3.6V), PT100ohm Passive
- HTX20-FTS-PT100: Humidity (1~3.6V), PT1000ohm Passive

※ "Direct Connection with a Thermal Element" means all of PT100, PT1000, NTC5K and NTC1K are available.



## HTX23 series OEM Temperature & Humidity Sensor

HUMITRON® HTX23 series is a module for detection of temperature and humidity which is especially for OEM and satisfactory in aspects of price and quality. It provides users with 4~20mA standard interface and it is designed with compact and slim shape, so users don't need to consider any spatial restriction or exposure when it is installed inside or outside of various types of climate control units or control facilities. Also, it can help users to reduce unnecessary cost and to maximize works efficiency through combination of 4~20mA standard humidity output and various temperature outputs (including passive) according to users' needs.



### Features

- Unified function for measuring temperature & humidity.
- Easy installation
- Compact & slim size - 63(L) x 63(W) x 16(H) (mm)
- Free 2m standard cable

### Applications

- Constant temperature & humidity control
- Temperature & humidity data collection
- Humidifier & dehumidifier
- Ventilation facility

### Technical data & Model

- Range: 10~99%RH / -10~60°C
- Accuracy: ±3.0%RH / ±0.5°C
- Power input: 12Vdc(6~30Vdc)
- Output: 4~20mA (2 wire)

- HTX23 - FHC: Humidity (4~20mA)
- HTX23 - FBC: Temperature (4~20mA)
- HTX23 - PPC - PT100: Humidity (4~20mA), Direct connection with a thermal element (Passive)
- HTX20 - FBS - PT100: Direct connection with a thermal element (Passive)
- HTX20 - FTS - 1K: Humidity (1~4V), Temperature (Direct connection with NTC1K (Passive))

※ "Direct Connection with a Thermal Element" means all of PT100, PT1000, NTC5K and NTC1K are available.



## HTX32C series Indoor Temperature & Humidity Transmitter

HUMITRON® HTX32C series is an optimized product line for measuring of temperature and humidity at indoor environment (home & office). It is convenient to communicate with upper monitoring & control system (PC-HMI, Touch Screen) and possible to get the intuitive information through its own LCD display on each individual unit installed at different places. Also, the simple structure and well-polished design is harmonized with indoor places, such as offices, R&D centers and residential areas.



### Features

Digital sensor applied for MEMS technology  
Embedded RS485 communication port based on MODBUS RTU/ASCII  
Quick counteraction speed (within 4 sec.)  
Excellent long-term stability and self-digital correction

### Applications

Environmental supervision for clean room  
(semi-conductor, LCD, pharmaceutical & food company)  
HVAC & building control  
Temperature & humidity data collection

### Technical data & Model

Range: 0~95%RH / -5~55°C  
Accuracy: ±2.0%RH / ±0.3°C  
Output: 4~20mA (2 wire), RS485 communication (MODBUS RTU/ASCII)  
Power input: 9~32Vdc

**HTX32C-11**: Humidity (4~20mA), Temperature (4~20mA), RS485 communication  
**HTX32C-10**: Humidity (4~20mA), Temperature (4~20mA)  
**HTX32C-01**: Exclusive RS485 communication (MODBUS RTU/ASCII)  
**HTX32C-10-PT100**: Humidity (4~20mA), Temperature (Direct connection with a thermal element (Passive))  
※ "Direct Connection with a Thermal Element" means all of PT100, PT1000, NI1000, NI750K and NI750 are available.



## HTX42C series Indoor Dew-point Transmitter

HUMITRON® HTX42C series can measure dew point within -20 ~ 55°C through precise calculation of relative humidity and temperature data which are measured accurately. They are optimized product line for measuring of dew point and temperature at indoor environment (home & office). It is convenient to communicate with upper monitoring & control system (PC-HMI, Touch Screen) and possible to get the intuitive information through its own LCD display on each individual unit installed at different places. Also, the simple structure and well-polished design is harmonized with indoor places, such as offices, R&D centers and residential areas.



### Features

Embedded LCD display  
Digital sensor applied with MEMS technology  
Measurement both dew point and temperature  
4~20mA transmission output function that setting is possible

### Applications

Environmental supervision for clean room  
(semi-conductor, LCD, pharmaceutical & food company)  
HVAC & building control  
Dew point & temperature data collection

### Technical data & Model

Range: 0~95%RH / -5~55°C  
Accuracy: ±2.0%RH / ±0.3°C  
Output: 4~20mA (2 wire), RS485 communication (MODBUS RTU/ASCII)  
Power input: 9~32Vdc / 12~24Vdc

**HTX42C-11**: Dew-point (4~20mA), Temperature (4~20mA) output, RS485 (Modbus RTU/ASCII)  
**HTX42C-10**: Dew-point (4~20mA), Temperature (4~20mA) output  
**HTX42C-01**: RS485 (Modbus RTU/ASCII)  
※ "Direct Connection with a Thermal Element" means all of PT100, PT1000, NI1000, NI750K and NI750 are available.



## HTX62C/D series Industrial Temperature & Humidity, Dew point temperature transmitter

HUMITRON® HTX62C series is an ideal product line for precise measuring of temperature, humidity and dew point temperature at various industrial applications. Also, it is possible to connect with upper system directly through embedded RS485 communication function and to show temperature and humidity on its own LED at the same time. Snap on-off type housing and plug-in terminal is applied for easy installation and wiring. Users can choose wall type, duct type or remote probe type according to their needs.



Wall-Unit

### Features

Digital sensor applied for MEMS technology  
Embedded RS485 communication port based on MODBUS RTU/ASCII  
Excellent long-term stability and self-digital correction  
Quick counteraction speed (within 4 sec.)  
Choosable 3 types (Wall/Duct/Remote probe) according to installed environment

### Applications

Semi-conductor, LCD  
HVAC & building control  
Pharmaceutical & food company, temperature & humidity data collection  
Environmental Chamber, Clean room, Storage house, Mushroom cultivation

### Technical data & Model

Range: 0~100%RH / -20~80°C / -40~60°C (Dew-point)  
Accuracy: ±1.8%RH / ±0.3°C  
Output: 4~20mA, RS485 communication (Modbus RTU/ASCII)  
Power input: 24Vdc (12~24Vdc for RS485 communication only)

**HTX62CW-11**: Humidity (4~20mA), Temperature (4~20mA), RS485 communication  
**HTX62CW-10**: Humidity (4~20mA), Temperature (4~20mA)  
**HTX62CW-01**: Exclusive RS485 communication (MODBUS RTU/ASCII)  
**HTX62DW-11**: Dew point temperature (4~20mA), Temperature (4~20mA), RS485  
※ HTX62CW (Wall unit), HTX62CD (Duct unit), HTX62CR (Remote probe: max. 10m)



Duct-Unit

Remote Probe-Unit

## HTX62C/D-EX series Explosion-proof Industrial Temperature, Humidity & Dew point Temperature Transmitter

HUMITRON® HTX62C series is an ideal product line for precise measuring of temperature, humidity and dew point temperature at various explosion-proof industrial applications. Also, it is possible not only to observe and control by connecting with upper system directly through embedded RS485 communication function but also to display with self-FND. Users can choose wall type, duct type or remote probe type according to their needs.



Duct-Unit

### Features

Digital sensor applied for MEMS technology  
Embedded RS485 communication port based on MODBUS RTU/ASCII  
Excellent long-term stability and self-digital correction  
Quick counteraction speed (within 4 sec.)  
Choosable 3 types (Wall/Duct/Remote probe) according to installed environment

### Applications

Chemical Plant  
Other places required for Explosion-proof function

### Technical data & Model

Range: 0~100%RH / -20~80°C  
Accuracy: ±1.8%RH / ±0.3°C  
Output: 4~20mA (2 wire), RS485 communication (Modbus RTU/ASCII)  
Power input: 24Vdc (12~24Vdc for RS485 communication only)

**HTX62C-EXW-11**: Explosion-proof, Humidity (4~20mA), Temperature (4~20mA), RS485 communication  
**HTX62C-EXD-11**: Explosion-proof, Dew point temperature (4~20mA), Temperature (4~20mA), RS485 communication  
※ HTX62C-EXW (Wall unit), HTX62C-EXD (Duct unit)



Wall-Unit

## HTX72/73 series Climate Control Temperature & Humidity Transmitter

HUMITRON® HTX73 series is an economical model for the general climate controlling environment and makes it possible to measure the exact temperature and humidity. Also, HTX73 series can maintain long-term durability in the circumstance where is dusty and occurs constant air flow by applying stainless steel mesh filter. Users can choose either duct mount type or wall mount type according to installed place or method.

### Features

- No magnetothermal error in circuit part because of separated element part
- Long-Term Durability applying for SUS mesh filter
- Suitability for long-distance transmission because of possibility to use at low voltage (9V)
- dust-proof & moisture-proof

### Applications

- Climate control / Constant Temperature & humidity control
- Building Automation / Storage
- Ventilation facility



Wall-Unit

### Technical data & Model

- Range: 0~100%RH / 20~80°C
- Accuracy:  $\pm 3.0\%RH / \pm 0.5^\circ C$
- Power in put: 24Vdc (6~30Vdc) or 24Vdc
- Output: 4~20mA (2 wire)

HTX73D(W) - FTC : Humidity (4~20mA), Temperature (4~20mA)

HTX73D(W) - FHC : Humidity (4~20mA)

HTX73D(W) - FBC : Temperature (4~20mA)

HTX73D(W) - FPC - PT100 : Humidity (4~20mA) Direct connection with a thermal element (Passive)

HTX73D(W) - FBC - PT100 : Direct connection with a thermal element (Passive)

\* Direct Connection with a Thermal Element means all of PT100, PT1000, Ni1000, NiTCX and NiTCX are available.



Duct-Unit

Remote Probe-Unit

## HTX82 series Industrial Temperature & Humidity Transmitter

HUMITRON® HTX82 series supplies users with the best liability and stability under the industrial climate control environment. It maintains and shows long-term stable capacity where is either in pipes of climate control units with strong air flow or at polluted place by chemical materials choosing high density sintering alloy filter and electrostatic capacity thin film element.

### Features

- No magnetothermal error in circuit part because of separated element part
- dust-proof & moisture-proof
- Possibility to use at humid and polluted place because of applying for high density sintering alloy filter
- Suitability for long-distance transmission because of possibility to use at low voltage (9V)
- dust-proof & moisture-proof

### Applications

- Climate control / Dehumidifier
- Gardening & Flower planting facility or equipment
- Building Automation / Storage
- Dry house / Silo



Duct-Unit

### Technical data & Model

- Range: 0~100%RH / 20~80°C
- Accuracy:  $\pm 2.0\%RH / \pm 0.3^\circ C$
- Power in put: 12Vdc or 24Vdc (6~30Vdc)
- Output: 4~20mA (2 wire)

HTX82D(W) - FTC : Humidity (4~20mA), Temperature (4~20mA)

HTX82D(W) - FHC : Humidity (4~20mA)

HTX82D(W) - FBC : Temperature (4~20mA)

HTX82D(W) - FPC - PT100 : Humidity (4~20mA)

HTX82D(W) - FBC - PT100 : Direct connection with a thermal element (Passive)

HTX82D(W) - FBC - PT100 : Direct connection with a thermal element (Passive)

\* Direct Connection with a Thermal Element means all of PT100, PT1000, Ni1000, NiTCX and NiTCX are available.

## HTX99R series High Temperature & Humidity Transmitter for Industrial Applications

HUMITRON® HTX99 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. 3 wire plug-in terminal block is applied for easy wiring and service and it is possible to use the input power either 10~35Vdc or 10~28Vdc.

### Features

- Remote probe type applied: 2m (basic)
- Possibility to use at humid and polluted place due to apply for high density metal mesh filter
- Wide using temperature range (-50~180°C), max.200°C (short time)
- PT100 temperature output

### Applications

- Constant temperature and humidity chamber or facility for test
- Drying facility (Fibers, foods, medicines, papers)



HTX99R

### Technical data & Model

- Range: 0~100%RH / 50~180°C
- Accuracy:  $\pm 2.0\%RH / \pm 0.3^\circ C$
- Power input: 15~24Vdc or 12~24Vdc
- Output: 4~20mA (3 wire)

HTX99R-FTC-2m-M : Humidity(4~20mA), Temperature(4~20mA), RS485 communication,

Cable length 2m, Probe length 220m

HTX99R-OEM-FTC-5m-L : Humidity(4~20mA), Temperature(4~20mA), RS485 communication,

Cable length 5m, Probe length 330m

HTX99R-FTC-2m-S-CA1 : Humidity(4~20mA), Temperature(4~20mA), RS485 communication,

Cable length 2m, Probe length 100m,  $\pm 1.0\%RH$  Humidity Calibration.

\* Probe length is possible to select among 65mm/220mm/330mm

\* It is possible to select between mesh filter for high humidity and standard sintered alloy filter.



HTX99R-OEM

## HTD500C series Ultra-Precise Indoor Type Temperature & Humidity Transmitter

HUMITRON® HTD500 series is an ultra-precise temperature & humidity transmitter for environmental measuring which integrates micro processor with a digital sensor based on MEMS technology. It makes precise control and efficient observation possible by transmitting measured temperature and humidity information to analogue output, control & observation system through RS-485 communication function in real-time. Also, it supplies users excellent attention even at wide place by applying for a big sized FND module.

### Features

- Digital sensor applied for MEMS technology
- Embedded RS-485 communication port based on MODBUS RTU/ASCII
- Excellent long-term stability and self-digital correction
- Quick counteraction speed (within 4 sec.)
- Slim size - 310(L) x 280(H) x 45(D) (mm)

### Applications

- Clean room / Measuring center / Inspection room
- Food company / Pharmaceutical company R&D center/Process control
- Computer room / Storage monitoring system
- Storage for foods, medicines, cereals, woods and electronic devices



Wall-Unit

### Technical data & Model

- Range: 5~95%RH / 10~60°C
- Accuracy - HTD520:  $\pm 1.8\%RH / \pm 0.3^\circ C$
- Output: 4~20mA, RS485 communication (MODBUS RTU/ASCII)
- Power Input: 24VDC (Free adaptor supplied)

HTD520 - 00 : Display only

HTD520 - 11 : Humidity (4~20mA), Temperature (4~20mA), RS485 communication

HTD520 - 00 : Display only

HTX520 - 11 : Humidity (4~20mA), Temperature (4~20mA), RS485 communication

HTX520 - 00 : Display only



Remote Probe-Unit