



THS30X Series(THS301 / 302 / 304 / 307)

[www.eyc-tech.com](http://www.eyc-tech.com)

Multifunction Temp. & Humidity Transmitter Wall type/Duct/Remote/Outdoor



THS301-Wall type  
0 ... 50°C



THS302-Duct  
- 40 ... + 80°C



THS304-Remote  
- 40 ... + 80°C



THS307-Outdoor  
- 40 ... +80°C

## | Features |

- Industrial sensor comes with high accuracy and long-term stability
- Capable of temperature compensation and linear calibration
- 2 analog output or Modbus RS-485
- Optional analog output + RS-485
- Probe : PC
- Power supply : DC 8 ... 35 V and AC 12 ... 30 V
- RS-485 and Modbus RTU
- Free programmable software - Physical quantities / Output / Data logger / Charts / Calibration

## | Applications |

Monitoring for HVAC process / Air conditioning / Environmental ventilation control / Building / Factory / Hospital / Clean room / Lab / Storeroom / Cooling tank / Environmental chambers / Weather station / Indoor pool / Greenhouse / Livestock nursery / Pharmaceutical / Textile / Agriculture / Food / Manufacturing industry / Drying facility

## | Specification |

### Input

Input type Capacitive humidity sensor & Pt 100 class A

### Operating Range Suggestion

Temperature 0 ... 50°C(THS301)  
- 40 ... + 80°C(THS302 / 304 / 307)  
Humidity 0 ... 100%RH

### Output

Output 4 ... 20 mA / 0 ... 10 V / RS-485  
Signal connection 3-wire  
Display type LCD Module with back light, double line character  
Display range Upon request, one decimal place  
Height of character 5.56 mm

### Linear Accuracy(at 25°C)

Temperature  $\pm 0.2^{\circ}\text{C} \pm 0.005^{\circ}\text{C} \times \text{tactual}$   
Humidity Nonlinear error :  $\pm 1.8\% \text{RH}$   
Repeatability error :  $\pm 0.7\% \text{RH}$   
Temp. influence 0.05%RH/°C  
Load resistance Current output : Max.500  $\Omega$   
Voltage output : Min.10 K $\Omega$   
Output calibration Software  
(ZERO & SPAN)  
Response time t90 < 20 sec(Membrane filter)  
< 30 sec(Sintered filter)

### Electrical

Power supply DC 8 ... 35 V / AC 12 ... 30 V  
Current consumption DC 24V : 60 mA / DC 12 V : 120 mA  
AC 24V : 140 mA / AC 12 V : 230 mA  
Electrical connection M12 connector with 2 m cable  
or terminal(Cable gland)

### Environment

Medium Air  
Operating Temp. Housing : - 20 ... +60°C  
Housing with display : 0 ... +60°C  
Operating humidity Housing : 0 ... 95%RH(Non-condensing)  
Proof Temp. PC probe : Max.80°C  
Cable PVC cable : Max.80°C(Remote type)  
Storage Temp. - 25 ... +60°C  
Filter Plastic membrane filter(Standard) ; Option

### Certification

Certification CE

### Protection

IP rating Housing : IP65 ; Probe : IP20  
Electrical protection ■ Reverse polarity ■ Over-voltage  
■ Short-circuit

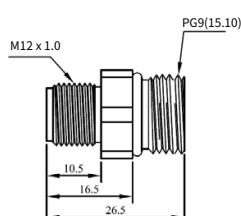
### Installation

Installation Wall type  
Outdoor : Supporting plate (Standard)  
Duct / Remote : Plastic flange (Standard)

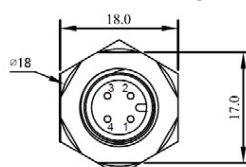
### Material

Housing PC fire-proof class(PC-110)(UL94V-2)  
Probe PC fire-proof class(PC-110)  
Remote probe cable PVC (Remote THS304)

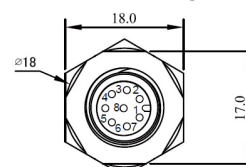
## | Electric Connector | Unit : mm



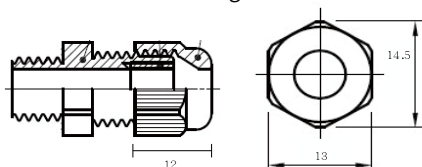
M type (M12-4PIN connector)  
RS-485 or analog



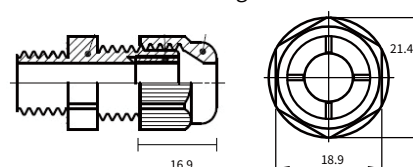
M type (M12-8PIN connector)  
RS-485+analog



N type (M12 cable gland)  
RS-485 or analog



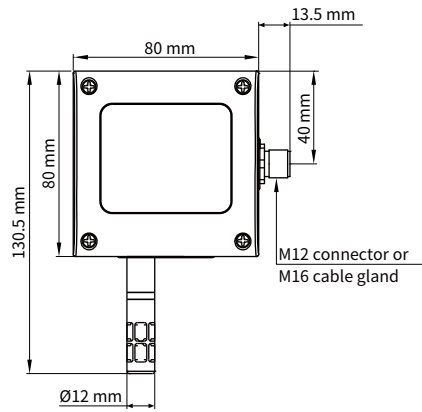
N type (M16 cable gland)  
RS-485+analog



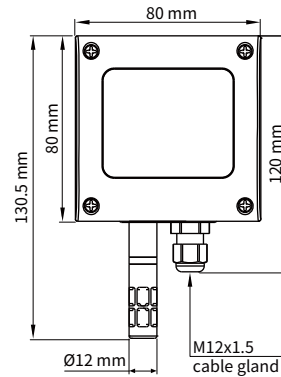
## Dimension

Unit : mm

### THS301 Wall type

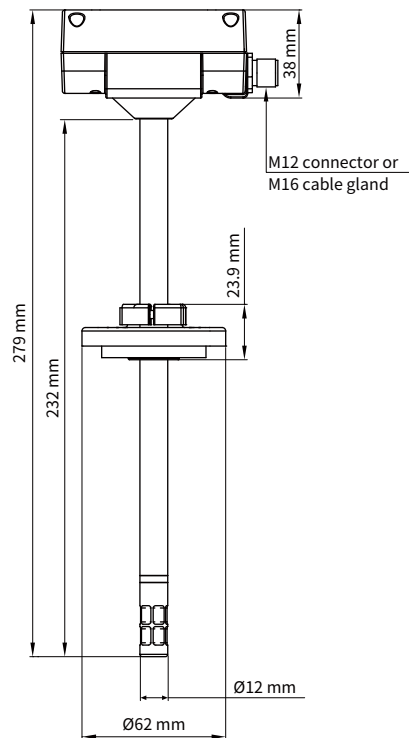


M type (4PIN) : RS-485 or analog  
M type (8PIN) or N type : RS-485+analog

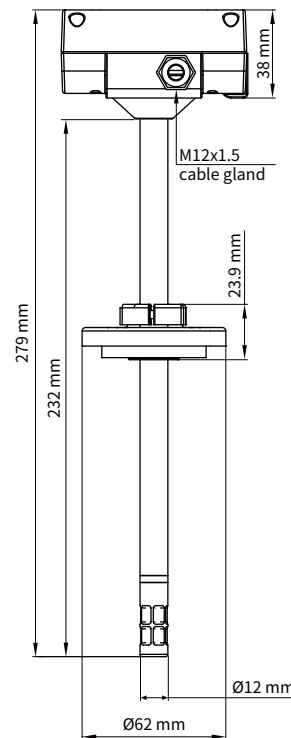


N type : RS-485 or analog

### THS302 Duct type (Standard : Plastic flange)



M type (4PIN) : RS-485 or analog  
M type (8PIN) or N type : RS-485+analog

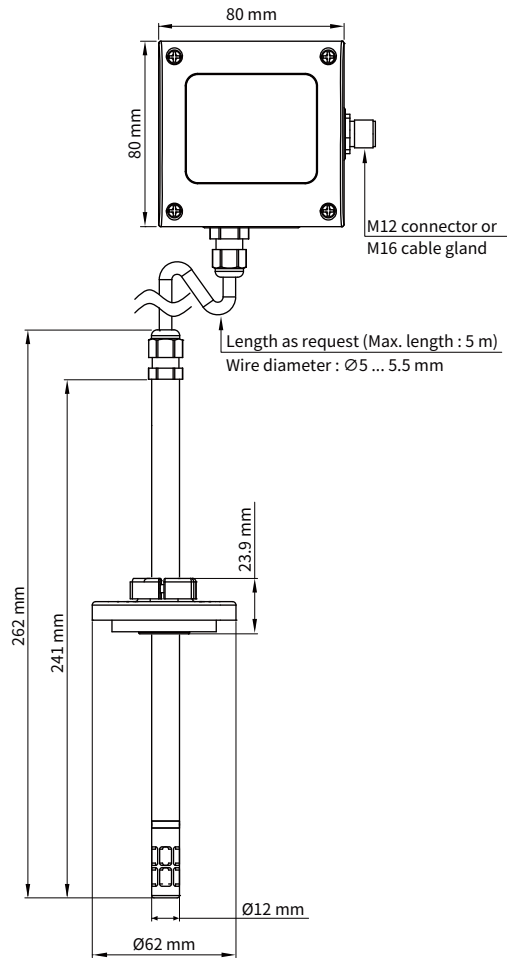


N type : RS-485 or analog

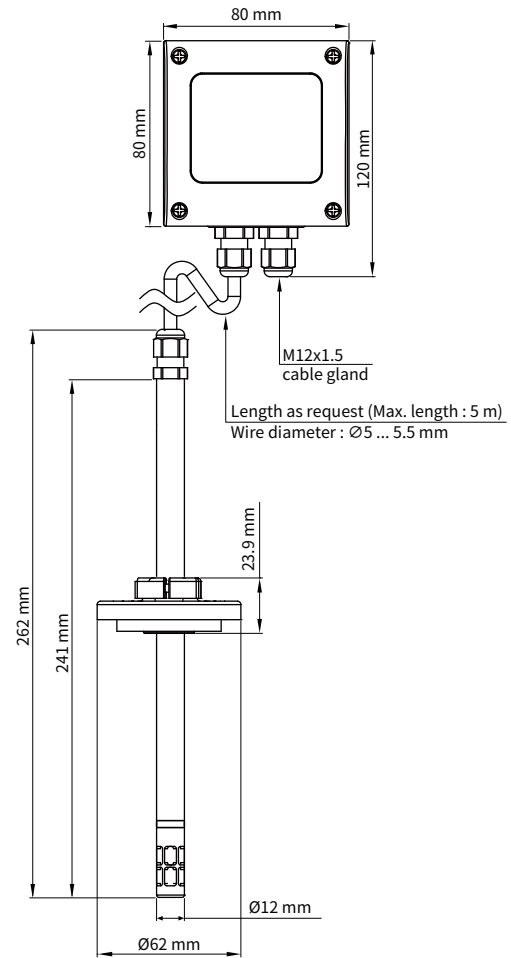
## Dimension

Unit : mm

### THS304 Remote type (Standard : Plastic flange + PVC 2 m cable)

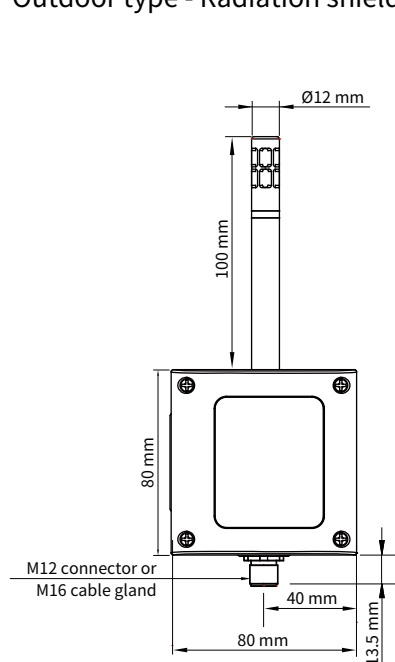


M type (4PIN) : RS-485 or analog  
M type (8PIN) or N type : RS-485+analog

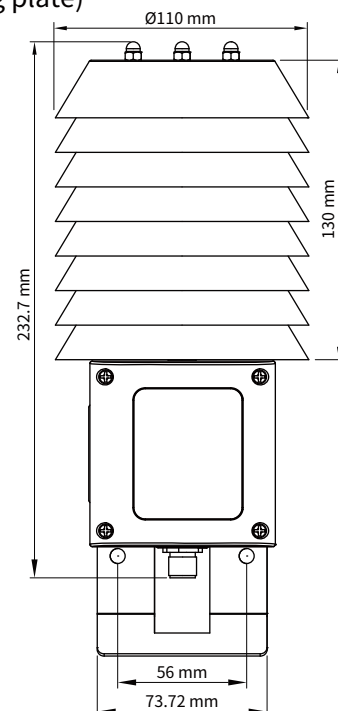


N type : RS-485 or analog

### THS307 Outdoor type - Radiation shield (Standard : Supporting plate)

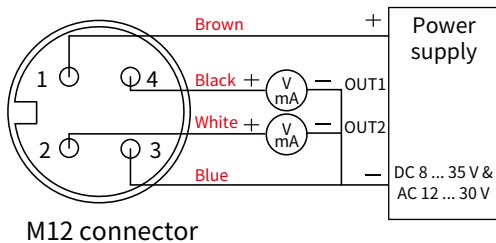


M type or N type : RS-485+analog



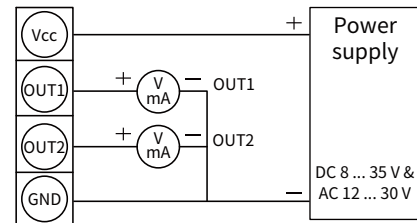
N type : RS-485 or analog

## | Analog Diagram |



M12 connector

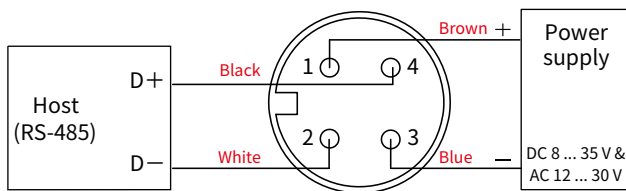
M type (4P)



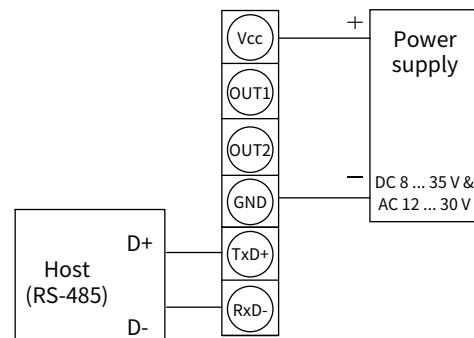
4P terminal

N type

## | RS-485 Diagram |

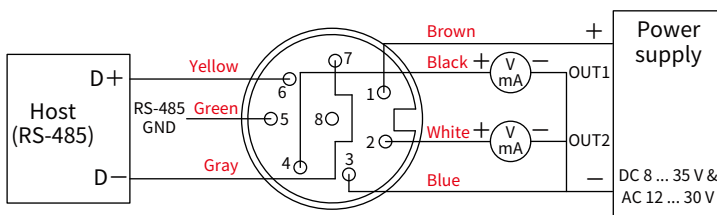


M type (4P)

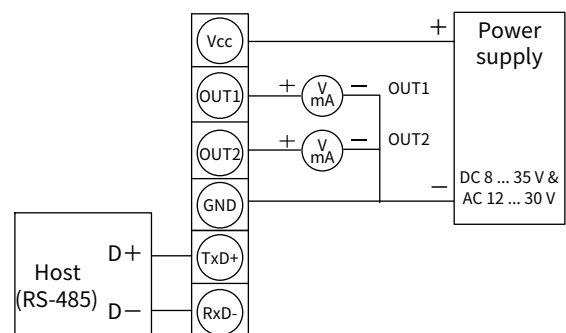


N type

## | Analog + RS-485 Diagram |



M type (8P)



N type

\*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

## Ordering Guide

**THS30**

| Installation                                                                                            | Physical quantity output 1                         | Physical quantity scale 1                                                                                      | Signal output 1                                 | Physical quantity output 2                   | Physical quantity output 2 | Signal output 2                                 | Display           | Electrical connector                                         | Filter                                                                                    | Remote probe cable            | Other request                                                 |
|---------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------|----------------------------|-------------------------------------------------|-------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------|
| 4                                                                                                       | T                                                  | 30                                                                                                             | 1                                               | H                                            | 00                         | 1                                               | D                 | M                                                            | P                                                                                         | 2                             | U                                                             |
| 1 : Wall type<br>2 : Duct(PC probe)<br>4 : Remote(PC probe, PVC cable)<br>7 : Outdoor(PC probe, shield) | T : Temperature<br>N : RS-485(Default temperature) | 30 : 0 ... 50°C<br>38 : 0 ... 80°C<br>14 : -40 ... +60°C<br>00 : RS-485 setting<br>YY : Customized Temp. range | 1 : 4 ... 20 mA<br>6 : 0 ... 10 V<br>9 : RS-485 | H : Humidity<br>N : RS-485(Default humidity) | 00 : 0 ... 100%RH          | 1 : 4 ... 20 mA<br>6 : 0 ... 10 V<br>9 : RS-485 | D : Yes<br>X : No | N : Plastic cable gland<br>M : M12 connector(with 2 m cable) | P : PC membrane filter(Standard : PC probe)<br>S : Sintered filter(Standard : S.S. probe) | 2 : 2 m (Standard)<br>5 : 5 m | W : Other request<br>(Quote as demand)<br>U : RS-485 + analog |

### \*Recommended best-selling

| Product ordering number | Product Specifications                                                                                          |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| THS301-N009N009-DMP     | Wall type + display, CH1/CH2 : RS-485, M12, PC membrane filter                                                  |
| THS301-T301H001-DMP     | Wall type + display, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, PC membrane filter        |
| THS301-T301H001-XMS     | Wall type, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, Sintered filter                     |
| THS301-T301H001-XMP     | Wall type, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, PC membrane filter                  |
| THS302-T301H001-XMP     | Duct type, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, PC membrane filter                  |
| THS302-T301H001-XMS     | Duct type, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, Sintered filter                     |
| THS304-T301H001-XMP5    | Remote type, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, 5 m PVC cable, PC membrane filter |
| THS307-N009N009-XMP     | Outdoor type, CH1/CH2 : RS-485, M12, PC membrane filter, 2 Channel                                              |
| THS307-T301H001-XMP     | Outdoor type, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, PC membrane filter               |
| THS307-T301H001-XMS     | Outdoor type, CH1 : T, 0 ... 50°C/CH2 : H, 0 ... 100%, O/P : 4 ... 20 mA, M12, Sintered filter                  |

## | Additional Option Test Report |

For more detailed information please contact us.

### ■ ILAC / TAF

YUDEN-TECH CO.,LTD. Calibration Laboratory - ( ILAC / TAF ) Test report.

(TAF accreditation : 3032, complying with ISO / IEC 17025 ) TAF has mutual recognition arrangement with ILAC MRA

| Project    | Measurand level or range     |
|------------|------------------------------|
| Hygrometer | Temperature : 0°C ... 69.5°C |
|            | Humidity : 10% ... 95%       |

### ■ ISO 9001

| Project                  | Measurand level or range    |
|--------------------------|-----------------------------|
| Temperature and Humidity | Temperature : 0°C ... 200°C |
|                          | Humidity : 0.1% ... 99.8%   |