



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                            RS-485 or 2 analog output  
    4 ... 20 mA / 0 ... 10 V  
 Signal connection            3-wire  
 Modbus                         RS-485(Programmable)and 2 analog output  
 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                        (at+25°C)  $\pm 2\%$ RH  
 Temp. influence                (at+25°C) 0.05%RH/°C(of body)  
 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)  
 (Temp. at+25°C)              <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 metal connector with 2 m cable  
    or terminal(Cable gland)

### Environment

Medium                            Air  
 Operating Temp.                Housing : - 20 ... + 60°C  
 Operating humidity            Housing : 0 ... 95%RH(Non-condensing)  
 Operating Temp.                Housing : 0 ... 60°C(with display)  
 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  
 Electric protection            ■ Polarity protection ■ Over-voltage  
    ■ Short-circuit

### Installation

Installation                      Wall type  
    Outdoor : Fixed board for wall type(Standard)  
    Duct / Remote : Plastic flange(Standard)

### Material

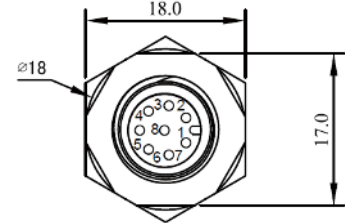
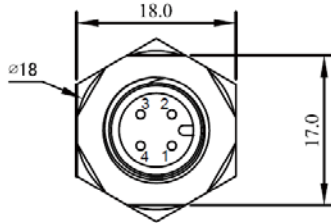
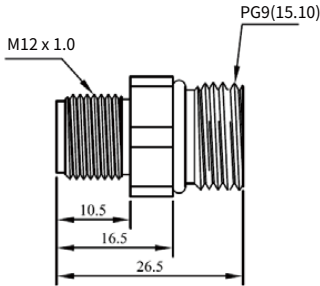
Housing                         PC fire-proof class(PC-110)(UL94V-2)  
 Probe                             PC fire-proof class(PC-110)

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

## | Electric Connector | Unit : mm

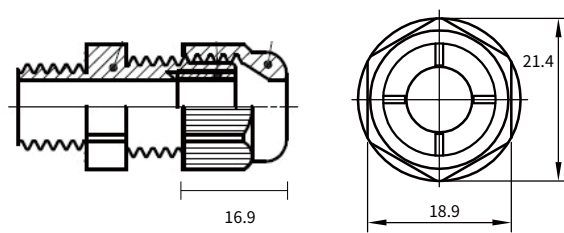
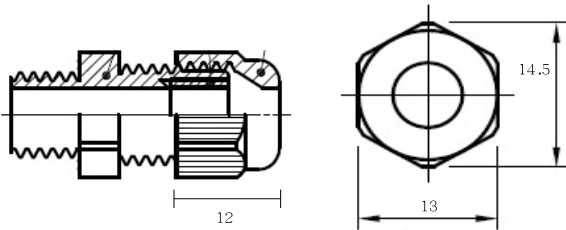
【M type(M12-4PIN metal connector)】  
RS-485 or analog

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



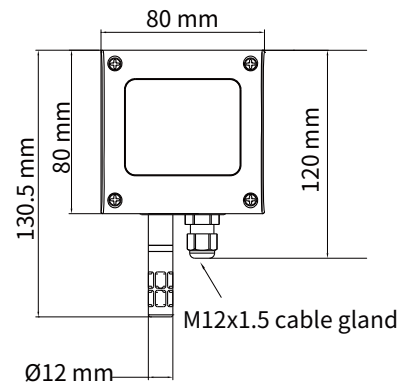
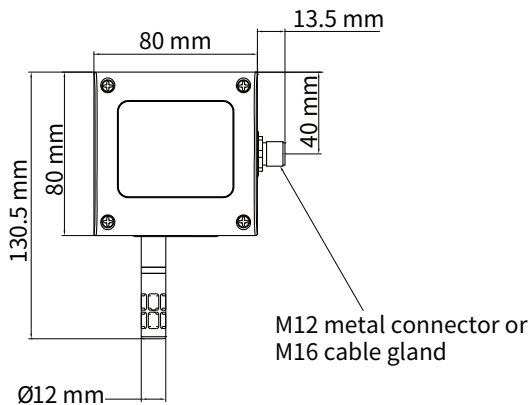
【M type(M12-8PIN metal connector)】  
RS-485+analog

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



## | Dimension |

【THS301 Wall type】

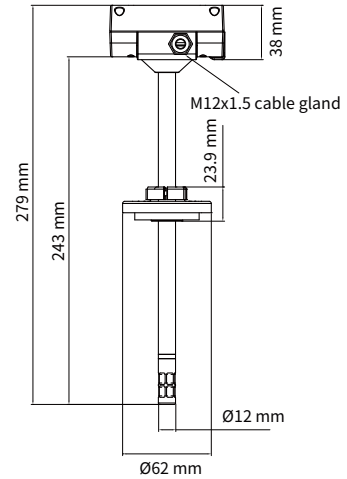
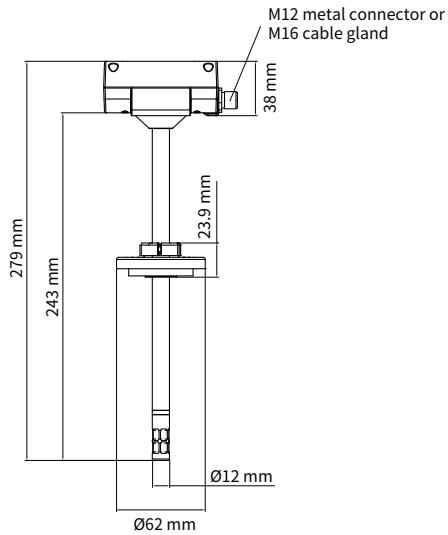


M type(4P) : RS-485 or analog  
M type(8P) or N type : RS-485 + analog

N type : RS-485 or analog

| Dimension |

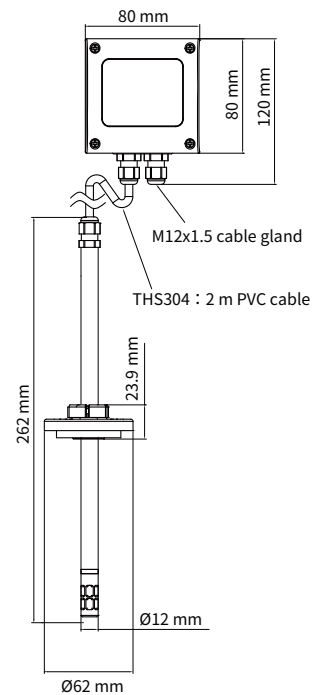
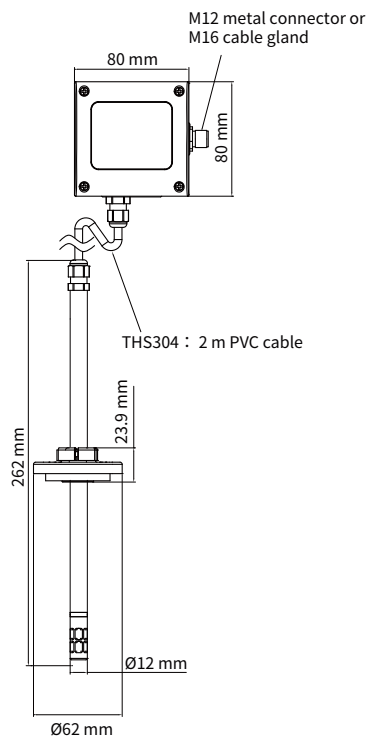
【THS302(Duct)-PC probe、Standard plastic flange】



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

N type : RS-485 or analog

【THS304(Remote)-PC probe+2 m PVC-Standard : Plastic flange】

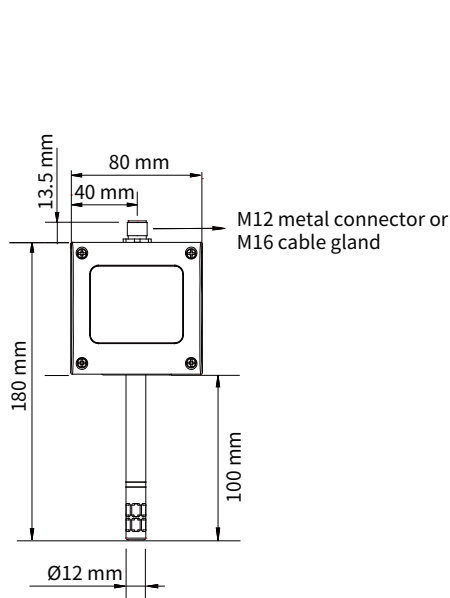


M type(4P) : RS-485 or analog  
 M type(8P) or N type : RS-485+ analog

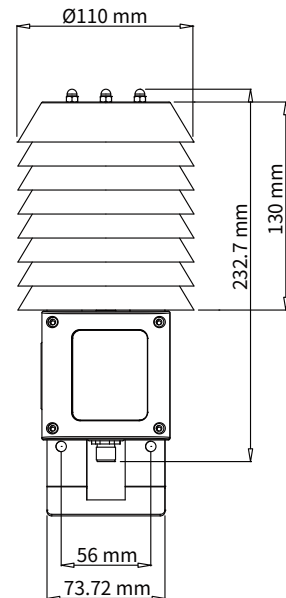
N type : RS-485 or analog

## | Dimension |

### 【THS307(Outdoor)-PC probe+shield】

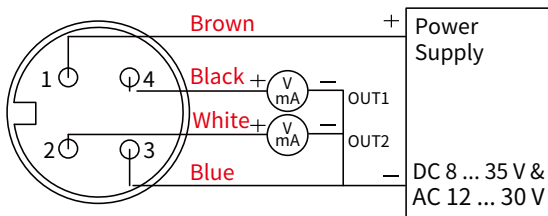


M or N type : RS-485+analog



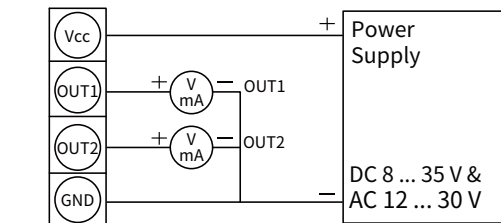
N type : RS-485 or analog

## | Analog Diagram |



M12 connector

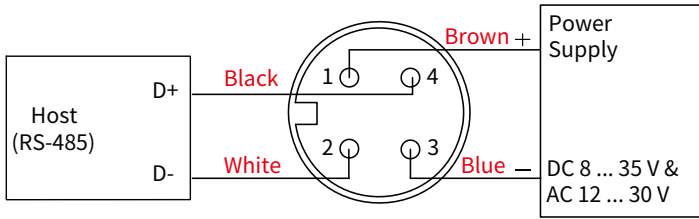
M type(4P)



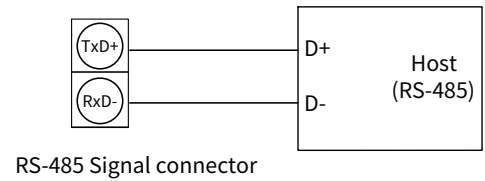
4P terminal

N type

## | RS-485 Diagram |



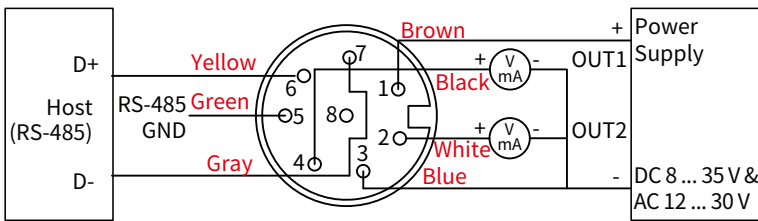
M type(4P)



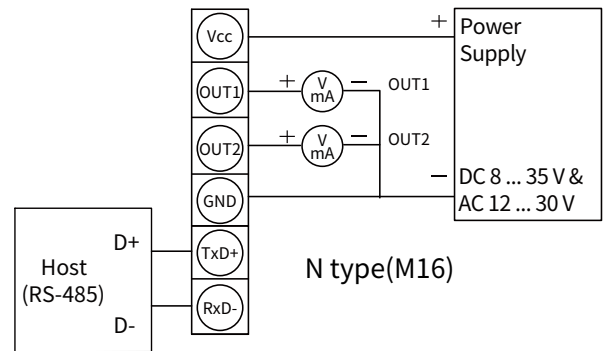
N type

※When output of ordering code is RS-485(without analog), RS-485 diagram of default setting is M type.

## | Analog + RS-485 Diagram |



M type(8P)



N type(M16)

## | Ordering Guide |

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 Cable Length	Other request	
THS30	4	T	30	1	H	00	1	D	M	P	2	U
							D : Yes X : No					W : Other request (Quote as demand) U : RS-485 + analog
						1 : 4 ... 20 mA 6 : 0 ... 10 V 9 : RS-485						2 : Standard 2 m PVC cable 5 : 5 m PVC cable
						00 : 0 ... 100%RH						P : PC membrane filter(Standard : PC probe) S : Sintered filter(Standard : S.S. probe)
						H : Humidity N : RS-485(Default humidity)						N : Plastic cable gland M : M12 metal connector(with 2 m cable)
						1 : 4 ... 20 mA 6 : 0 ... 10 V 9 : RS-485						
						30 : 0 ... 50°C 38 : 0 ... 80°C 13 : -20 ... +40°C 14 : -40 ... +60°C YY : Special range						
						T : Temperature N : RS-485(Default temperature)						
						1 : Wall type 2 : Duct(PC probe) 4 : Remote(PC probe, PVC cable) 7 : Outdoor(PC probe, shield)						

## | 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%