



THE120

OEM Temperature and Humidity Transmitter

Temperature &amp; Humidity-THE120

www.eyc-tech.com



50 PCS/LOT

## | Features |

- Capacitive humidity sensor & Pt100
- 4 ... 20 mA / 0 ... 10 V / RS-485 Output
- Accuracy :  $\pm 0.2^{\circ}\text{C}$  (Temperature) ,  $\pm 2\%\text{RH}$  (Humidity)
- Small size and light weight, can be mounted fast and easily
- Polycarbonate housing, great electrical insulation and flame-retardant properties
- RS-485 programmable software : Data logger / Charts

## | Applications |

Laboratory incubator / Cabinet incubator / Growth chamber /  
 Laboratory / Storeroom / Industrial machinery and equipment

## | Specification |

### Input

Sensor	Capacitive humidity sensor & Pt100
Measuring range (Temperature)	0 ... 100°C
Measuring range (Humidity)	0 ... 100%RH

### Output

Signal	4 ... 20 mA / 0 ... 10 V / RS-485
Load resistance	Current output : $\leq 500 \Omega$
	Voltage output : $\geq 100 \text{ K}\Omega$
Response time (Temperature)	$t_{63} \leq 10 \text{ sec}$ (from 15°C ... 45°C)
Response time (Humidity)	$t_{63} \leq 5 \text{ sec}$ (from 33%RH ... 75%RH)
Installation angle effect	$< 3\%$ of the measured value
	(When the installation angle $< 10^\circ$ )
Warm-up time	$< 2 \text{ min.}$

### Accuracy

Temperature	$\pm 0.2^\circ\text{C} \pm 0.005^\circ\text{C} \times t \text{ actual}$
Humidity	$\pm 2\% \text{RH}$ (Temp. influence : $0.05\% \text{RH}/^\circ\text{C}$ )

### Environmental

Medium	Air
Body operating Temp.	0 ... 50°C
Body operating Humid.	95%RH (Non-condensing)
Storage Temp.	-20 ... +60°C

### Electrical

Power supply	DC 24 V $\pm 10\%$
Current consumption	100 mA
Overvoltage protection	DC : $< 40 \text{ V}$
Electrical connections	PVC cable

### Installation

Installation	PC nut type
	PT movable thread type

### Protection

IP rating	IP 65
Electrical protection	■ Polarity protection
	■ Over-voltage
	■ Short-circuit

### Certification

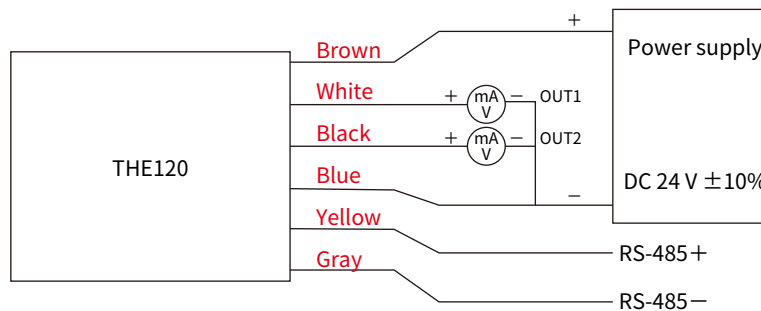
Certification	CE
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### Material

Housing	PC
Weight	133g

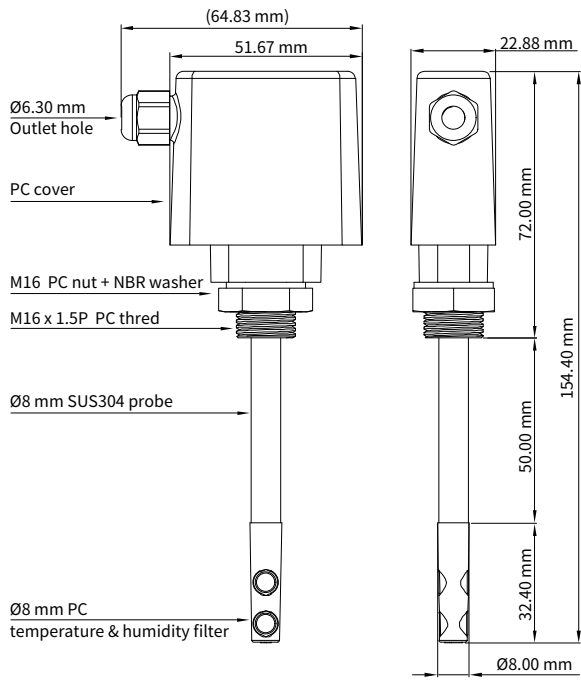
\*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

## | Connection Diagram |

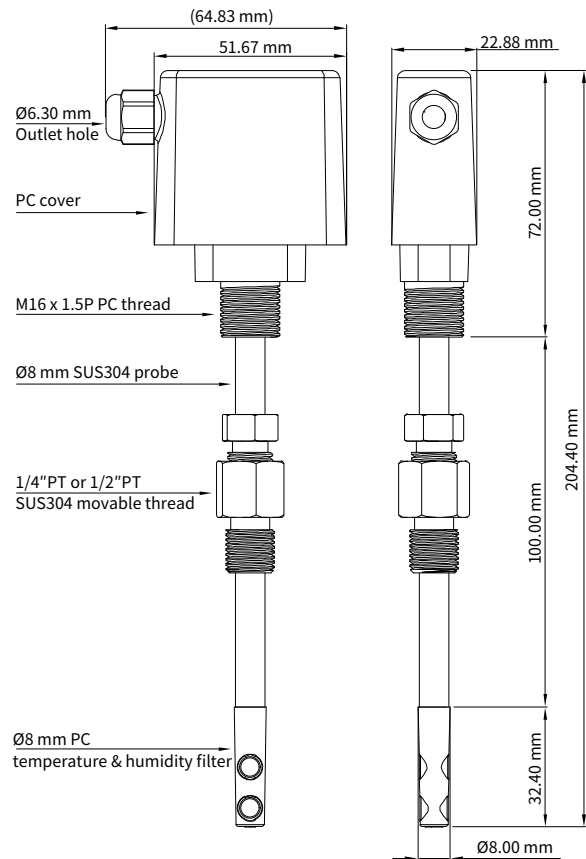


## | Dimension |

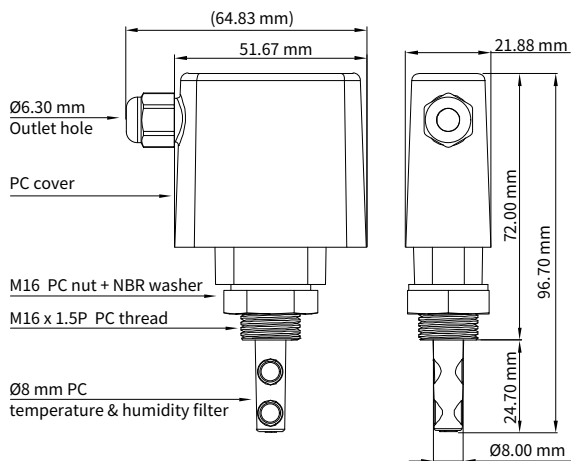
### ■ PC nut type-5 cm



### ■ PT movable thread type-10 cm

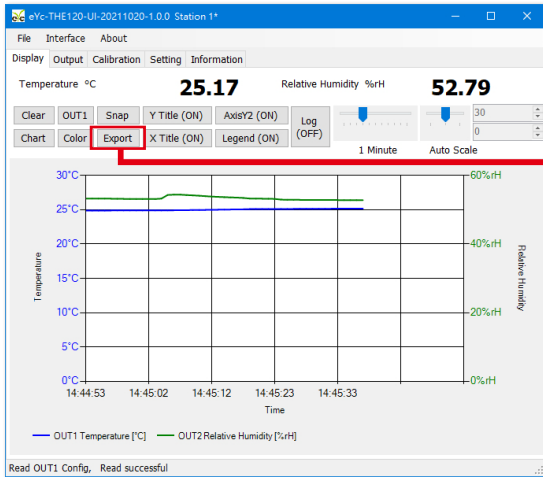


### ■ PC nut type-0 cm



## | With RS-485 Software |

### ■ Data logger and Charts



Charts

	A	B	C
		OUT1 Temperature [°C]	OUT2 Relative Humidity [%rH]
下午 02:47:57		25.20474243	51.711341
下午 02:47:58		25.20474243	51.710197
下午 02:47:59		25.20474243	51.73382
下午 02:48:00		25.19766426	51.770915
下午 02:48:01		25.19766426	51.808914
下午 02:48:02		25.19766426	51.839988
下午 02:48:03		25.19766426	51.852066
下午 02:48:04		25.19058609	51.84941
下午 02:48:05		25.19058609	51.847

### ■ Offset adjustment

#### Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

T' 24.73°C

	Tunit [°C]	Tstd [°C]
▶	91.0067	90.12
	-4.0063	0.06
	51.6451	50.73

WRITE

READ

#### Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

K' 56.5918%

	Hunit [%]	Hstd [%]
▶	91.0067	90.12
	-4.0063	0.06
	51.6451	50.73

WRITE

READ

### ■ Adjustable range

#### OUT1

Quantity: Temperature

Response Rate (0~100): 100

Analog Range: 4-20mA

Upper Range: 100

Lower Range: 0

#### OUT2

Quantity: Relative Humidity

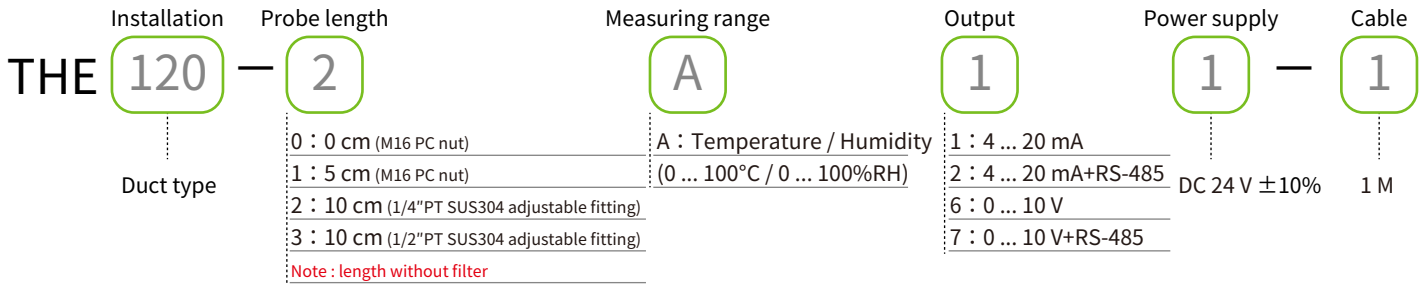
Response Rate (0~100): 100

Analog Range: 4-20mA

Upper Range: 100

Lower Range: 0

## | Ordering Guide |



## | 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%