



THE120

OEM Temperature and Humidity Transmitter

Temperature & Humidity-THE120



| 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 : $\geq 100 \Omega$
Response time (Temperature)	$t_{63} \leq 10$ sec(from 15°C ... 45°C)
Response time (Humidity)	$t_{63} \leq 5$ sec(from 33%RH ... 75%RH)
Installation angle effect	<3% of the measured value (When the installation angle < 10°)
Warm-up time	< 2 min.

Accuracy

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

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 V
Electrical connections	PVC cable

Installation

Installation	Duct type
--------------	-----------

Protection

IP rating	IP 65
Electrical protection	<input checked="" type="checkbox"/> Polarity protection <input checked="" type="checkbox"/> Over-voltage <input checked="" type="checkbox"/> Short-circuit

Certification

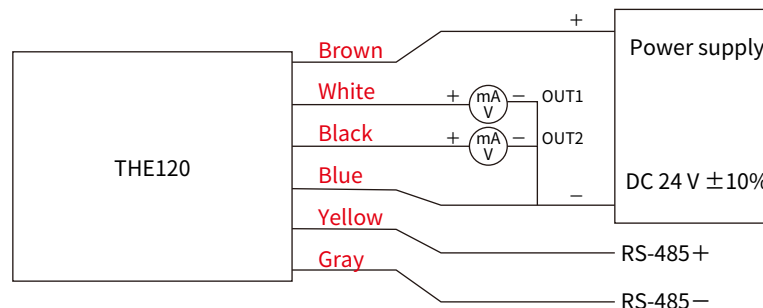
Certification	CE
---------------	----

Material

Housing	PC
Weight	133g

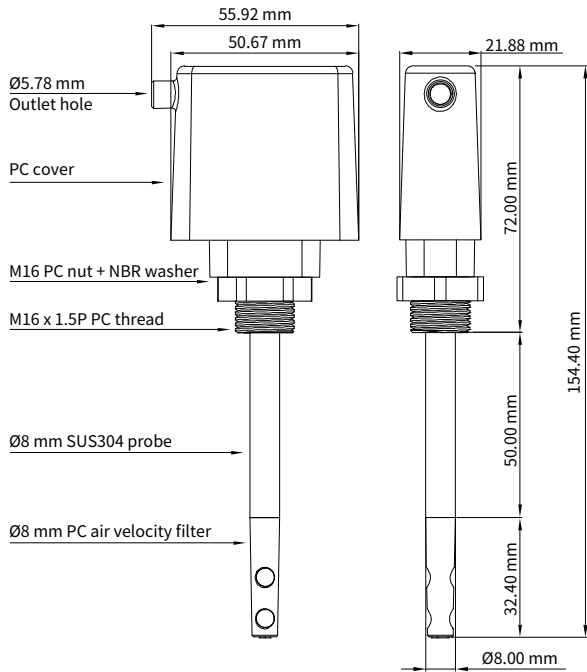
*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

| Connection Diagram |

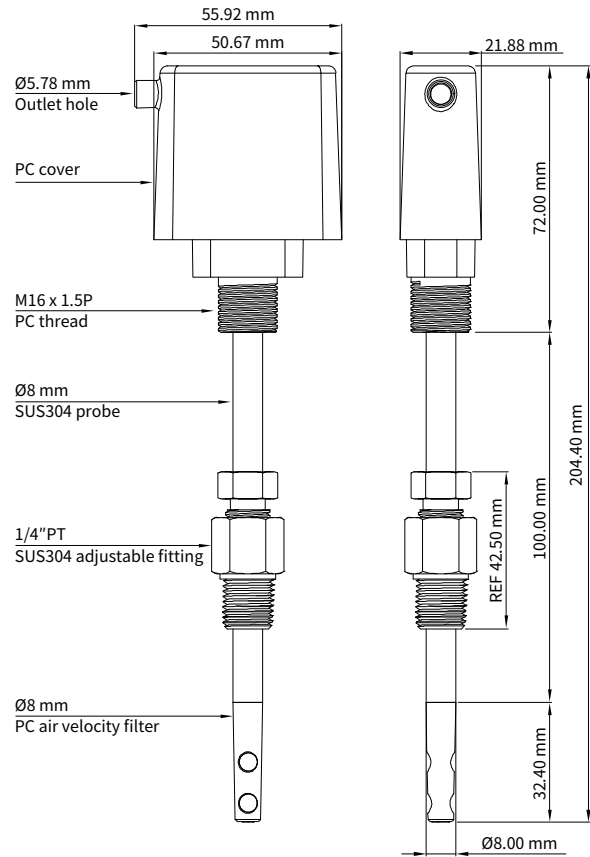


Dimension |

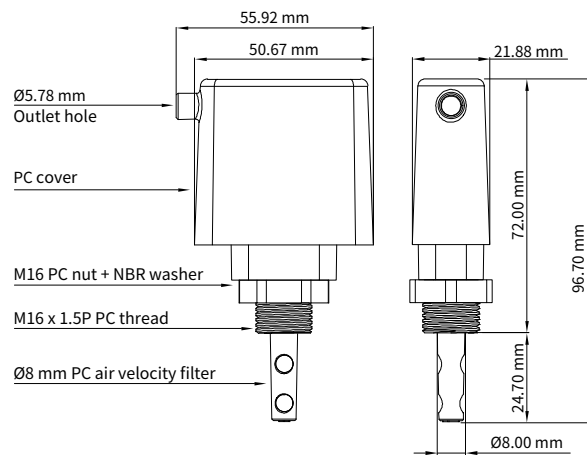
■ Type 1



■ Type 2

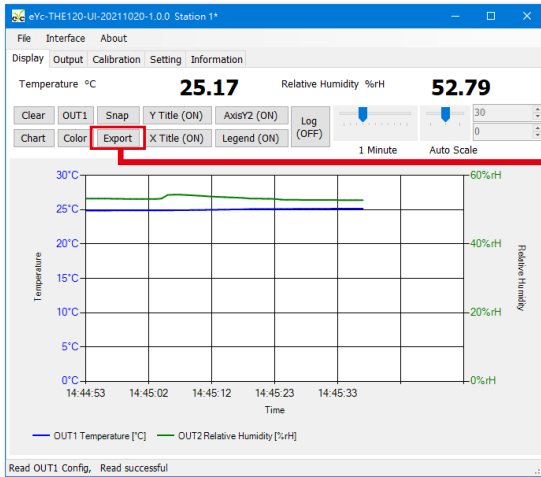


■ Type 3



| With RS-485 Software |

■ Data logger and Charts



Charts

A	B	C
	OUT1 Temperature [°C]	OUT2 Relative Humidity [%rH]
14:45:02	25.20474243	51.711341
14:45:03	25.20474243	51.710197
14:45:04	25.20474243	51.73382
14:45:05	25.19766426	51.770915
14:45:06	25.19766426	51.808914
14:45:07	25.19766426	51.839988
14:45:08	25.19766426	51.852066
14:45:09	25.19058609	51.84941
14:45:10	25.19058609	51.847

■ Offset adjustment

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

T' 24.73°C

	Tunit [°C]	Tstd [°C]
▶		

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 |

THE	Installation	Probe length	Measuring range	Output	Power supply	Cable
	120	2	A	1	1	1
	Duct type	0 : 0 cm (M16 PC nut) 1 : 5 cm (M16 PC nut) 2 : 10 cm (1/4"PT SUS304 adjustable fitting) 3 : 10 cm (1/2"PT SUS304 adjustable fitting) Note : length without filter	A : Temperature / Humidity (0 ... 100°C / 0 ... 100%RH)	1 : 4 ... 20 mA 2 : 4 ... 20 mA+RS-485 6 : 0 ... 10 V 7 : 0 ... 10 V+RS-485	DC 24 V ±10%	1 M

| 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%