



THM06

Industrial High Accuracy Temp. & Humidity Transmitter

Temperature & Humidity-THM06

www.eyc-tech.com

Adaptation to high Temp. and high humid. conditions or harsh environments such as chemical pollution & condensation



| Features |

- IP67, Stainless steel SUS304, Pressure resistance 16 bar
- 330° rotatable, lightweight, unrestricted installation
- Optional on-site real-time display
- Process temperature up to 180°C, custom up to 200°C (Optional)
- Output : Analog / RS-485
- Wide measurement range, Temp. : -40 ... +180°C, Humidity : 0 ... 100%RH
- Measuring parameter : relative humidity, dew point temperature, frost point temperature, wet-bulb temperature, vapor pressure, mixture ratio, absolute humidity and specific enthalpy.

| Introduction |

THM06 has a sturdy outer housing and a wide range of applications. It is also suitable for use in harsh environmental conditions. Capacitive sensor, high accuracy of temperature, and humidity measurement, fast response, fast recovery after condensation. It is stability even in long-term high humidity, also it has temperature compensation and computer linear calibration temperature and humidity function, suitable for industrial process gas supply or consumption, compressed dry air flow, and consumption monitoring.

| Applications |

Semiconductor / Electronics / Steel industry / Chemical / Pharmaceutical / Biotechnology industry / Tobacco industry / Industrial process control (drying or humidification) / Environmentally controlled / High humidity storage / Food

| Specification |

Input

Signal type	Capacitive humidity sensor & Pt100
Temperature range	-40°C ... +180°C Customized up to 200°C (Optional)
Humidity range	0 ... 100%RH (non-condensing)
<small>(Please refer to physical quantity measuring range list)</small>	

Environmental

Medium	Air, or medium compatible with stainless steel
Temp. Operating	-20 ... +60°C (Body) ; -40 ... +180°C (Probe)
Humid. Operating	0 ... 90%RH (Body, non-condensing)
Probe pressure	16 bar
Storage temperature	-20 ... +60°C

Output

Signal	4 ... 20 mA / 0 ... 10 V / RS-485
Signal connection	3-wire
Accuracy	
Temperature	$\pm 0.15^\circ\text{C} + 0.002^\circ\text{C} \times \text{tactual}$
Humidity (0 ... 90%)	Nonlinear error : $\pm 1.2\%RH$ Hysteresis error : $\pm 0.8\%RH$ Repeatability error : $\pm 0.4\%RH$
Humidity (90 ... 100%)	$\pm 2\%RH$
Reaction time t90 (at +25°C)	<20 sec (S.S. metal grid filter with mesh) <30 sec (Sintered filter)
Load resistance	Current output : $\leq 500 \Omega$ Voltage output : $\geq 100 K\Omega$

Installation

Installation	Metal connector
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Protection

IP rating	IP67
Electrical protection	<input checked="" type="checkbox"/> Polarity reversal protection <input checked="" type="checkbox"/> Over-voltage <input checked="" type="checkbox"/> Short-circuit

Material

Housing	SUS304
Weight	Metal : 318 g (without wire)

Electrical

Power supply	DC 24 V $\pm 10\%$
Current consumption	DC 24 V : 60 mA
Electrical connections	M12 metal connector

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

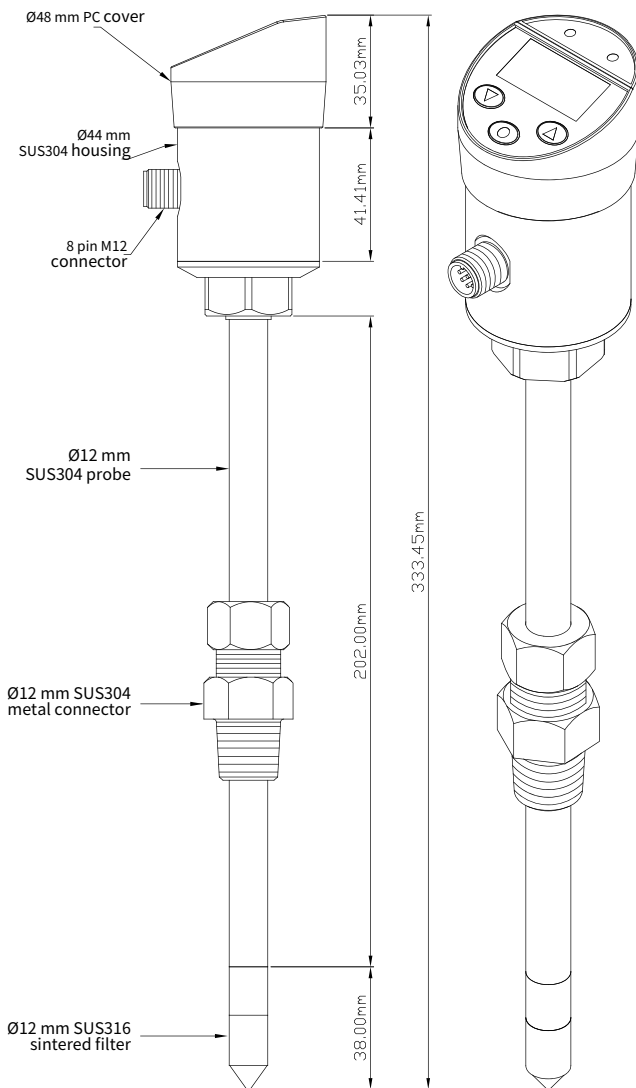
Notes : No display (Standard), with display (Optional)

| Measuring Range List | Each physical quantity measuring range is calculated by converting the temperature and humidity of the product. The values are for reference only.

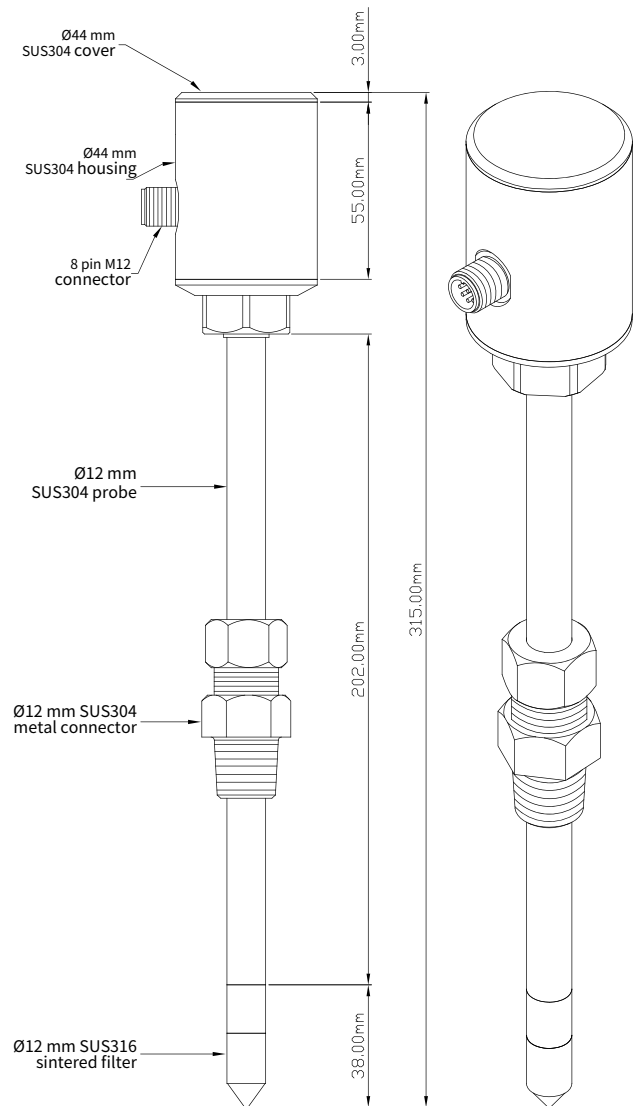
Physical quantity	Code	Min	Max	Unit
Temperature	T	-40	180	°C
Humidity	H	0	100	%RH
Dew point	D	-40	60	dp °C
Frost point	F	-40	0	fp °C
Absolute humidity	A	0	700	g/m ³
Wet-bulb temp.	W	0	100	°C
Vapor pressure	E	0	1100	mbar
Mixture ratio	R	0	999	g/kg
Specific enthalpy	S	0	2800	kJ/kg

| Dimension | Unit : mm

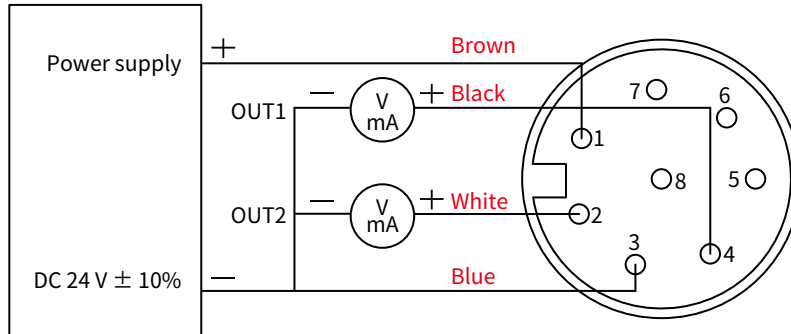
THM06 Display



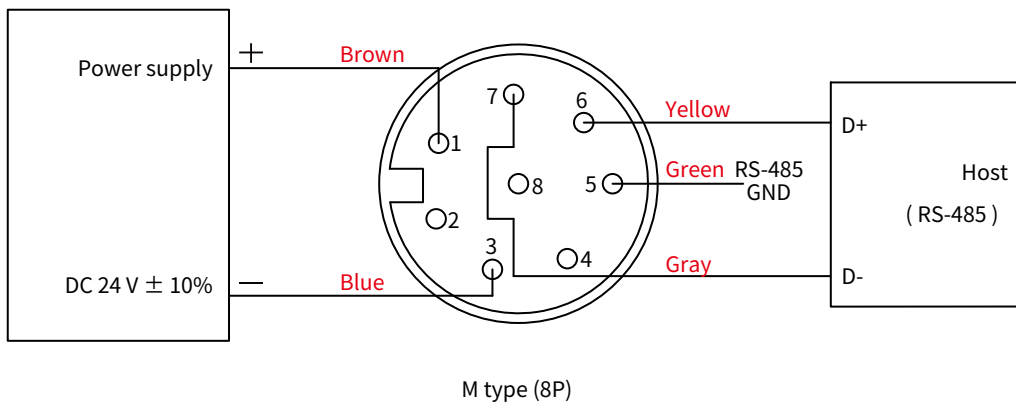
THM06 No display



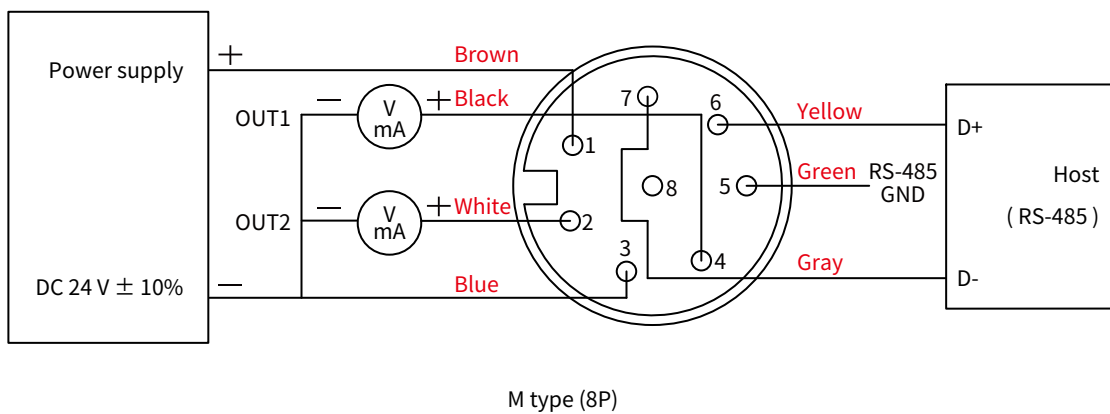
| Analog Diagram |



| RS-485 Diagram |



| Analog + RS-485 Diagram |



| Ordering Guide |

THM06 — **T** **30** **1** **H** **00** **1** — **M** **S** **U**

<p>Physical quantity output 1</p> <p>T</p> <p>T : Temperature H : Humidity D : Dew point F : Frost point W : Wet-bulb Temp. E : Vapor pressure R : Mixture ratio A : Absolute humidity S : Specific enthalpy N : RS-485 (Default Temp.)</p>	<p>Physical quantity scale 1</p> <p>30</p> <p>30 : 0 ... 50°C 38 : 0 ... 80°C 40 : 0 ... 100°C 42 : 0 ... 120°C 48 : 0 ... 180°C 00 : Refer to physical quantity measuring range list YY : Customized (up to 200°C)</p>	<p>Signal output 1</p> <p>1</p> <p>1 : 4 ... 20 mA 6 : 0 ... 10 V 9 : RS-485</p>	<p>Physical quantity output 2</p> <p>H</p> <p>T : Temperature H : Humidity D : Dew point F : Frost point W : Wet-bulb Temp. E : Vapor pressure R : Mixture ratio A : Absolute humidity S : Specific enthalpy N : RS-485 (Default Temp.)</p>	<p>Physical quantity scale 2</p> <p>00</p> <p>30 : 0 ... 50°C 38 : 0 ... 80°C 40 : 0 ... 100°C 42 : 0 ... 120°C 48 : 0 ... 180°C 00 : Refer to physical quantity measuring range list YY : Customized (up to 200°C)</p>	<p>Signal output 2</p> <p>1</p> <p>1 : 4 ... 20 mA 6 : 0 ... 10 V 9 : RS-485</p>	<p>Electric connector</p> <p>M</p> <p>M : M12 metal connector</p>	<p>Filter</p> <p>S</p> <p>M : S.S. Metal grid filter with mesh S : Sintered filter</p>	<p>Optional</p> <p>U</p> <p>D : Display W : Customized U : RS-485 + Analog</p>
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| 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%