



Temperature & Humidity

Industrial High Temp. Multi-function Dew Point Transmitter

Adaptation to high temperature and high humidity conditions or harsh environments such as chemical pollution & condensation

THM06

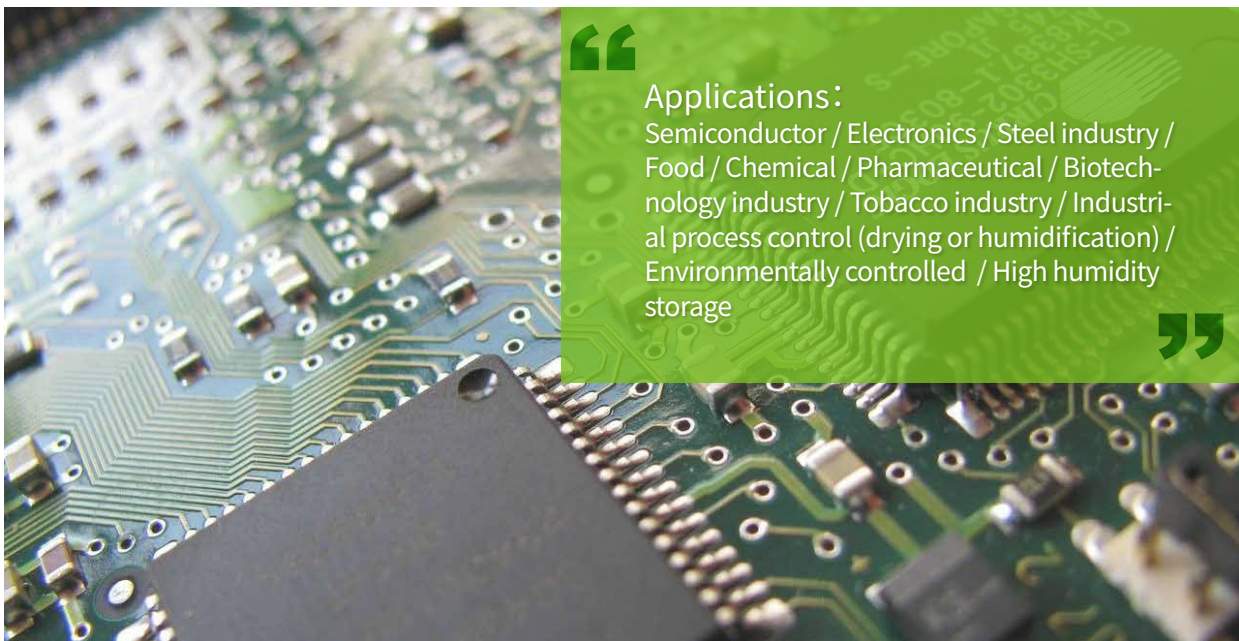
PRELIMINARY

| Features |

- IP67, Stainless steel SUS304, withstand voltage 10 bar.
- 330° Rotatable, lightweight, unrestricted installation.
- Optional on-site real-time display.
- Process temperature up to 120°C, custom up to 150°C (optional)
- Output : analog / RS-485
- Wide measurement range, Temp. -40...+120°C, humidity 0 ... 100%RH, dew point -50 ... +60dp°C.
- Measuring parameter : relative humidity, dew point temperature, frost point temperature, wet bulb temperature, water vapor partial pressure, mixing ratio, absolute humidity and 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 / Food / Chemical / Pharmaceutical / Biotechnology industry / Tobacco industry / Industrial process control (drying or humidification) / Environmentally controlled / High humidity storage



| Specification |

Item	Function & Parameter
Input	Capacitive humidity sensor & Pt100
Measurement range	Temperature : -40 °C ... +120 °C ; customized up to 150 °C (optional) Humidity : 0 ... 100%RH (non-condensing) Dew point : -50 ... +60dp °C
Output	4 ... 20mA / 0 ... 10V / RS-485
Signal connection	3-wire
Accuracy	Temperature : $\pm 0.15\text{ °C} + 0.002\text{ °C} \times t$ actual Humidity : 0 ... 100%RH (non-condensing) Dew point : $\pm 3\text{ dp } \text{°C} \pm (0.02\% \text{ F.S. } / \text{°C})$
Reaction time	t90 (Temp. : +25 °C) < 30 seconds (SUS sintered filter)
Load resistance	Current output : $\leq 500\Omega$ / voltage output : $\geq 10\text{K}\Omega$
Medium	Air, or medium compatible with stainless steel
Operating environment	Temperature : body : -20 ... +60 °C ; probe : -40 ... +120 °C Humidity : body : 0 ... 90%RH (non-condensing)
S.S. Proof pressure for probe	10 bar (-40 ... +120 °C)
Storage temperature	-20 ... +60 °C
Operating power	24 \pm 10% VDC
Current consumption	DC 24V : 60mA / DC 12V : 120mA
Electrical connections	M12 metal connector
Installation	Metal quick connector
IP rating	IP67
Electrical protection	▪ Polarity reversal protection ▪ Over-voltage ▪ Short-circuit
Housing material	SUS304
Weight	Metal : 318g (without wire)

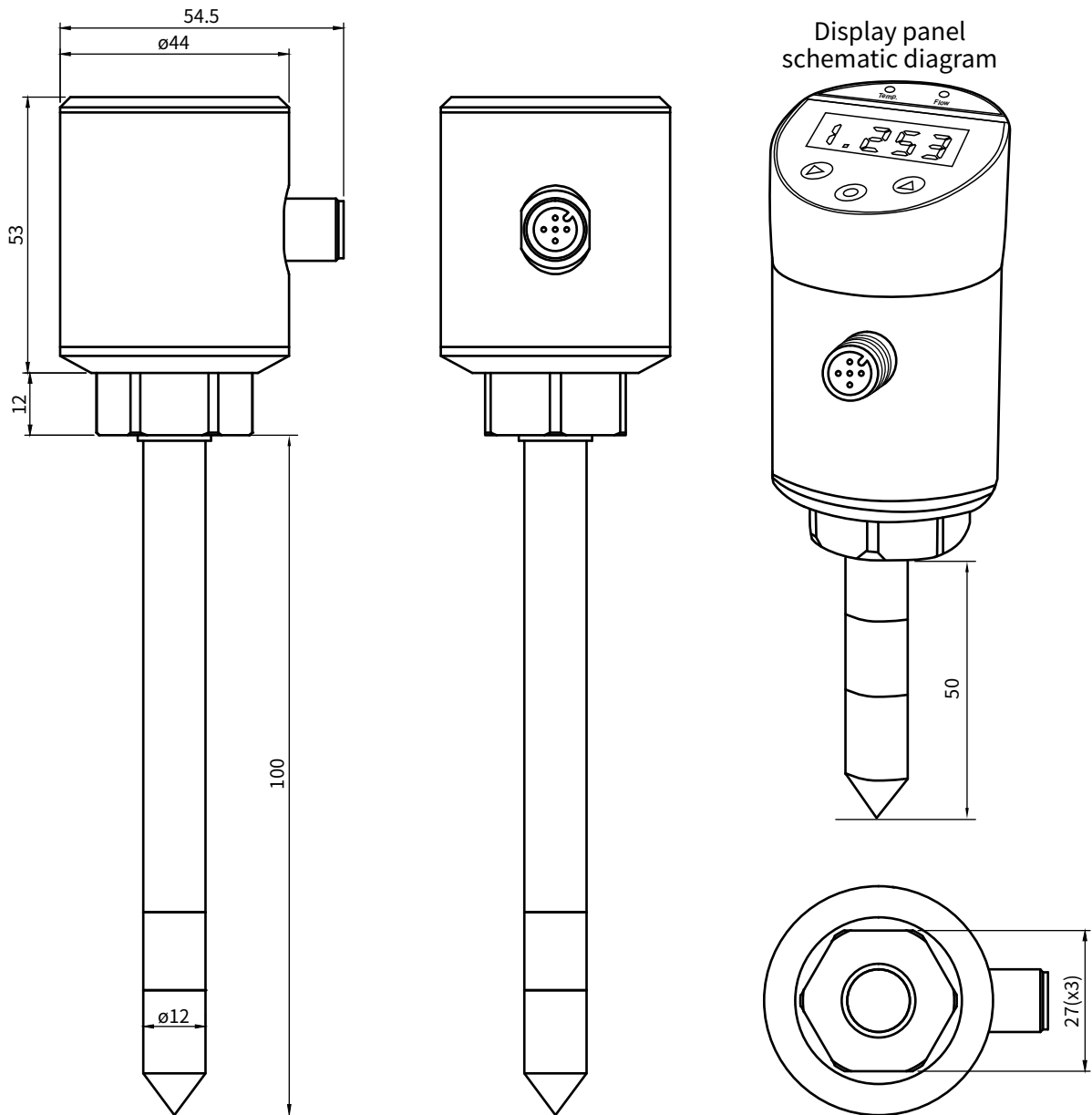
Notes : 1. No display (standard) with display (optional).

Notes : 2. Probe size : 50 / 100 / 150mm (standard), other lengths can be customized.

| 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.

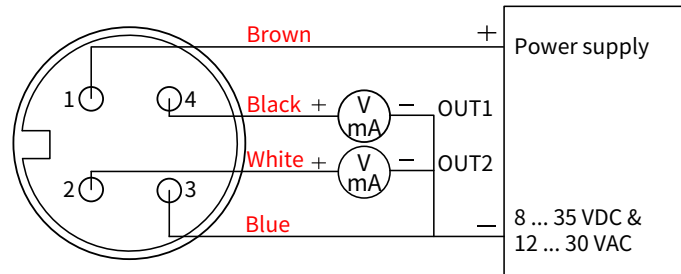
Physical quantity	Code	Min	Max	Unit
Temperature	T	-40	120	°C
Dew point	D	-50	60	dp °C
Frost point	F	-45	0	fp °C
Absolute humidity	V (volume)	0	32767(analog)	ppm/v
Absolute humidity	G (weight)	0	32767(analog)	ppm/w
Wet-bulb temp.	W	0 ... 100		°C
Vapor pressure	E	0 ... 1100		mbar
Mixture ratio	R	0 ... 999		g/kg
Specific enthalpy	S	0 ... 2800		kJ/kg

Dimension | Unit:mm

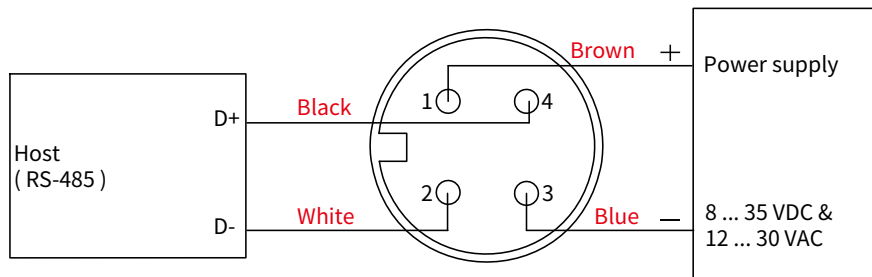


Note: 50 / 100 / 150 (standard)
(other sizes can be ordered)

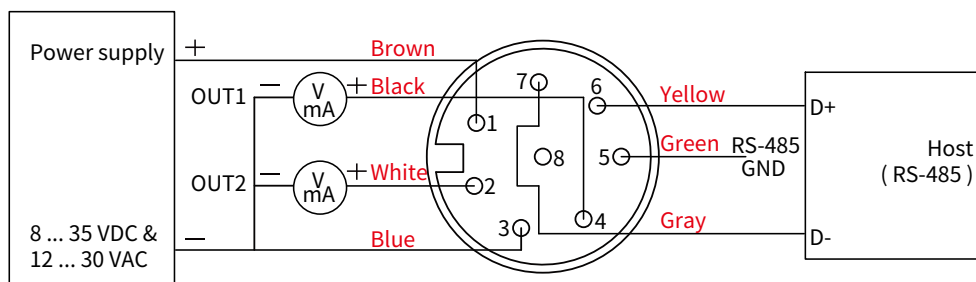
| Analog Diagram |



| RS-485 Diagram |



| Analog + RS-485 Diagram |



| Ordering Guide |

THM06 - **T** **30** **1** - **H** **20** **1** - **M** **S** **U**

Physical quantity output 1	Physical quantity scale 1	Signal output 1	Physical quantity output 2	Physical quantity scale 2	Signal output 2	Electric connector	Filter	Optional
T: Temperature	20: -40 ... 80 °C 30: 0 ... 50 °C 38: 0 ... 80 °C 42: 0 ... 120 °C	1: 4 ... 20 mA 2: 0 ... 20 mA 6: 0 ... 10 V 7: 0 ... 5 V 8: 0 ... 1 V 9: RS-485	H: Humidity	20: -40 ... 80 °C 30: 0 ... 50 °C 38: 0 ... 80 °C 42: 0 ... 120 °C	1: 4 ... 20 mA 2: 0 ... 20 mA 6: 0 ... 10 V 7: 0 ... 5 V 8: 0 ... 1 V 9: RS-485	M: M12 metal connector	M: S.S. Metal grid filter with mesh S: Sintered filter	U: RS-485 + Analog W: Customization
D: Dew point	13: -20 ... 40 dp °C 14: -40 ... 60 dp °C 17: -50 ... 20 dp °C 60: -50 ... 60 dp °C		D: Dew point	13: -20 ... 40 dp °C 14: -40 ... 60 dp °C 17: -50 ... 20 dp °C 60: -50 ... 60 dp °C				
F: Frost-point	00: See physical quantity measuring range list YY: Customization (up to 150°C)		F: Frost-point	00: See physical quantity measuring range list YY: Customization (up to 150°C)				
V: Absolute humidity (ppm/v)			V: Absolute humidity (ppm/v)					
N: RS-485 (default Temp.)			N: RS-485 (default Temp.)					

| Additional option (ILAC/TAF) Test report |

Additional option: Calibration laboratory test report (TAF accreditation: 3032) complying with ISO/IEC 17025. TAF has mutual recognition arrangement with ILAC MRA

Project	Measurand level or range
Hygrometer	3 basic points(25°C. 30%. 50%. 80%)
	Temperature: 0°C ... 70°C
	Humidity: 10% ... 95%
Project	Measurand level or range
Dew point hygrometer	≥ -80°C ... ≤ 60°C