



# THS88MAX

## Industrial Dew Point Transmitter

# Dew Point-THS88MAX

www.eyc-tech.com



## | Features |

- Dew point calibration, highly accuracy, 4 ... 20 mA and RS-485 output
- Reduce insensitivity temperature zone, quickly response
- Hysteresis compensation, resistance to moisture, extreme high and low humidity impact
- EMC anti-interference, anti-condensation, low-temperature influence, long-term stability
- Two thread (1/2"PT, 1/2"G) mode can be selected

## | Applications |

Compressed air system / Air separation equipment / Freezer / Adsorption machine / Plastic dryer / Industrial drying process / Paper / Chemical process monitoring

## | Equipment Applications |



## | Specification |

### Input

Input type	Capacitive humidity sensor & Pt100
Operating range of dew point	-60 ... +20 dp°C

### Output

Max. scaling range	Dew point : -100 ... +20 dp°C
Dew point switch to another physical quantity range	Frost point : -60 ... 0 fp°C Absolute humid.(Volume) : 0 ... 50000 ppm/v Absolute humid.(Weight) : 0 ... 50000 ppm/w
Output signal	Standard 4 ... 20 mA+RS-485 / 0 ... 10 V+RS-485 on request
Signal connection	3-wire
Linear accuracy	±1 dp°C (at -20 ... +20 dp°C) ±1.5 dp°C(at -40 ... +20 dp°C) ±2 dp°C (at -60 dp°C) Reference (at -100 ... -60 dp°C)
Load resistance	Current output : ≤ 500 Ω Voltage output : ≥ 100 KΩ
Output calibration	Software
(ZERO & SPAN)adjustment range	
Response time t90(Temp. at+25°C)	<20 sec

### Environment

Medium	Air
Operating Temp. for housing	-40 ... +60°C
Operating Humid. for housing	0 ... 95%RH (Non-condensing)
Operating Temp. for probe	-40 ... +60°C
Storage temperature	-25 ... +60°C

### Installation

Installation	1/2"PT, 1/2"G
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### Protection

IP rating	IP65(Probe : IP20)
Electrical protection	<input checked="" type="checkbox"/> Reverse polarity <input checked="" type="checkbox"/> Over-voltage <input checked="" type="checkbox"/> Short-circuit

### Material

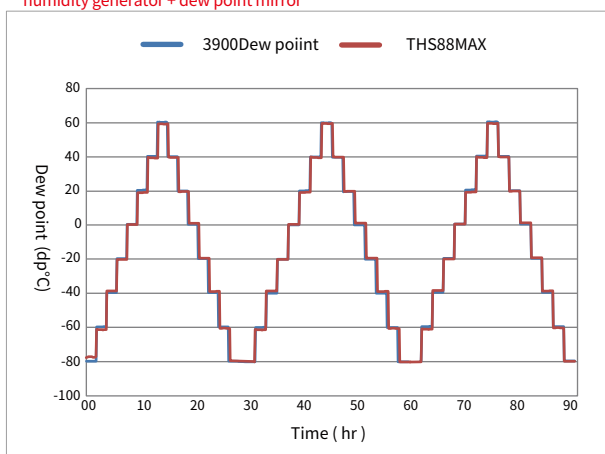
Housing	S.S.(SUS304)
Probe	S.S.(SUS304) ; SUS sintered filter(SUS316)
Weight	168 g

### Electrical

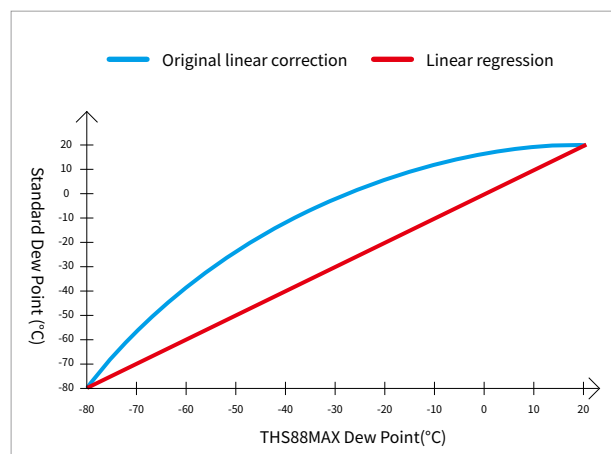
Power supply	DC 24 V±15%
Current consumption	DC 24 V, 50 mA
Electrical connection	M12 connector

## | 3-cycle Curve |

※ According to IEC 61298 and ISO 17025 standard to measuring 3-cycle curve.  
As the charts result, accuracy of test sample match with accuracy chart of humidity generator + dew point mirror



## | 3-cycle Curve |

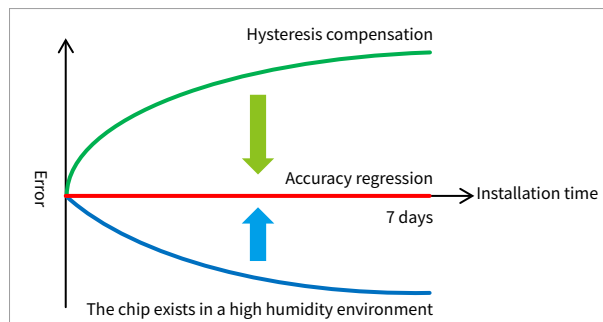


## | Resolution Increased |

	Previous product	THS88MAX
Sampling frequency(Hz)	24,000,000	72,000,000
conclusion frequency setting(Hz)	10,000	6,000
Hardware resolution(Count)	2,400	12,000
Maximum sampling error	1/2,400	1/12,000
Maximum sampling error(PPM)	417	83

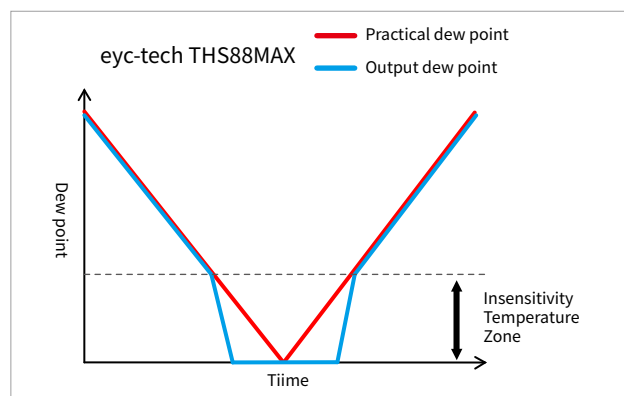
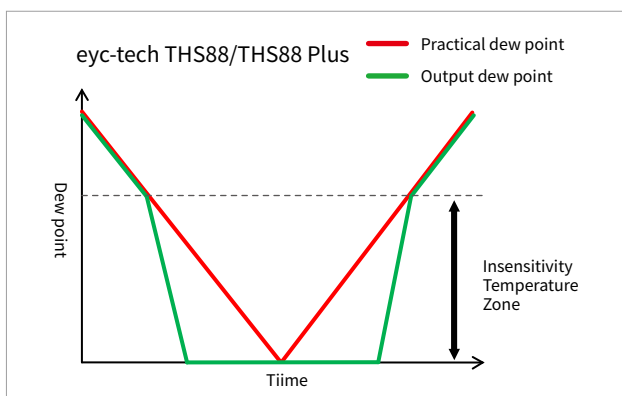
The resolution of eyc-tech THS88MAX is significantly improved by 5 times compared with the previous product.

## | Hysteresis Compensation |



In the application of low dew point temperature, continuous drying of the wafer may cause the measurement value such as the blue curve to cause the accuracy of the initial use to not meet the product standard. The firmware is relieved by the compensation (hysteresis compensation) of the green curve so that the product accuracy standard can be reached at the initial stage of installation.

## | Insensitivity Temperature Zone |

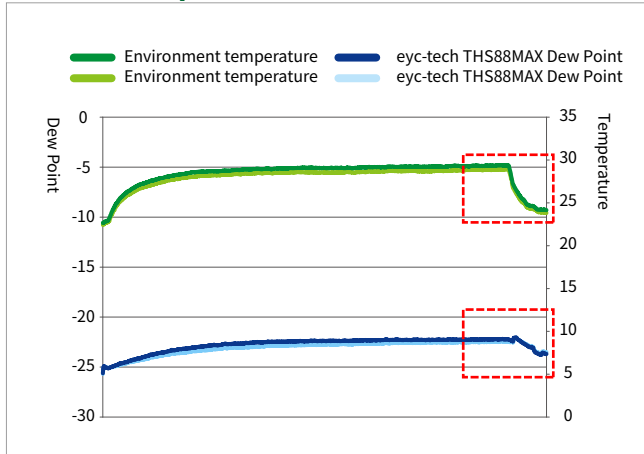


eyc-tech THS88MAX Insensitivity Temperature Zone: reaction speed upgrade

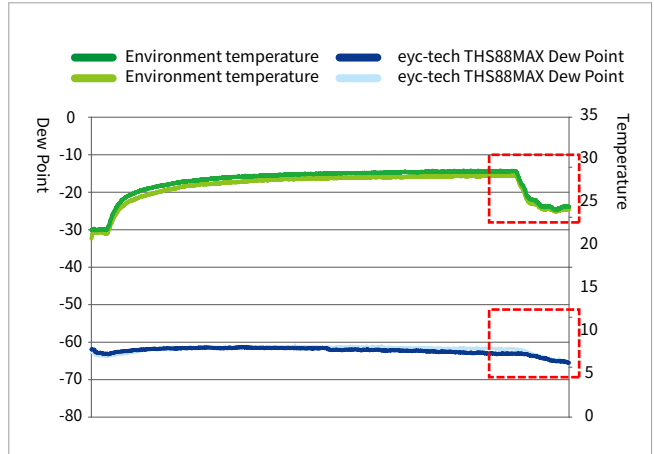
## | Environmental Temperature Change Curve |

When the environment changes (red frame), the impact of temperature changes is low.

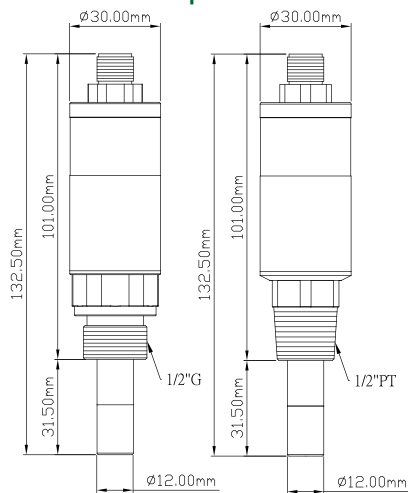
### ■ -25 dp°C



### ■ -60 dp°C

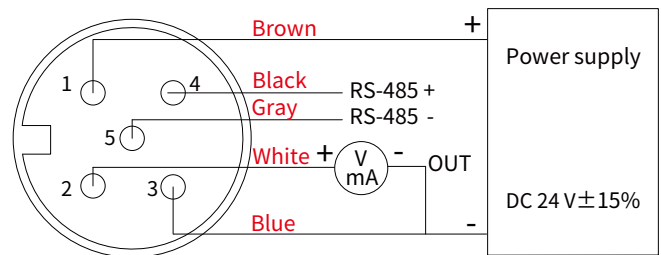


## | Dimension |



※ Standard — M12-5PIN 2M waterproof cable

## | Diagram |



M12 connector

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

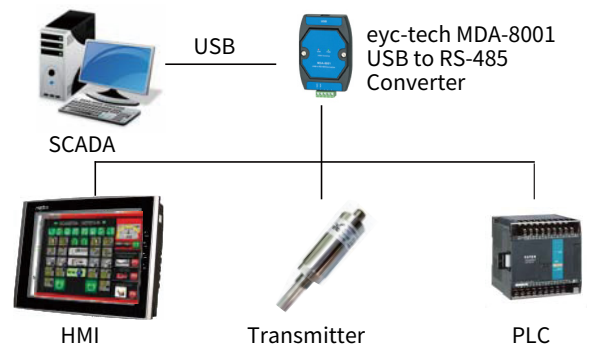
## | Dew Point Automatic Inspection System |



### ■ System Facility

- Humidity generator
- Dew point mirror
- Laboratory level facility to produce products, and automatic QC inspection sheet printing and factory report

## | USB to Isolated RS-485 Application |



### ■ Require Device

- PC / RS-485 to USB Converter / Power supply / UI software

## | Ordering Guide |

THS88MAX	—	<b>Dew point measuring range</b> <span style="border: 1px solid green; border-radius: 50%; padding: 2px 8px;">C</span>	<b>Connector</b> <span style="border: 1px solid green; border-radius: 50%; padding: 2px 8px;">1</span>
		A : -20 ... +20°C B : -40 ... +20°C C : -60 ... +20°C D : -80 ... +20°C	1 : 1/2"PT ( R1/2") 2 : 1/2"G
		*Max. scaling range : -100 dp°C ... +20 dp°C *Linear accuracy : Reference (at -100 ... -60 dp°C)	

## | Optional Combination |

eyc-tech THS88MAX Industrial Dew Point Transmitter + eyc-tech SD05 Integrated Signal Indicator + eyc-tech 8203104023 Dew point measuring chamber

### eyc-tech THS88MAX

Input type : Capacitive humidity sensor & Pt100  
Dew point scaling range : -100 ... +20 dp°C  
Output signal : Analog, RS-485  
Linear accuracy : ±1 dp°C (at -20 ... +20 dp°C)  
                          ±1.5 dp°C(at -40 ... +20 dp°C)  
                          ±2 dp°C (at -60 dp°C)  
                          Reference (at -100 ... -60 dp°C)  
Response time t90(Temp. at+25°C) : <20 sec  
IP rating : IP65(Probe : IP20)



### eyc-tech SD05

Display method : 4-digit LED(Height of word : 9.2 mm)  
Display range : -1999 ... +9999  
Accuracy : 0.2%F.S.  
Power supply : 4 ... 20 mA  
Parameter setting : Programmable by pressing the button  
Housing material : ABS(UL94V-0) + PC(UL94V-2)

### eyc-tech Dew point measuring chamber

Pressure range : 2 ... 16 bar  
Flow : 4 ... 8 LPM  
Connection : G1/2" threads  
Quick coupler : Japanese C-type  
Material : SUS304

## | 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
Dew point transmitter	≥ -80 dp°C ... ≤ 60 dp°C

### ■ ISO 9001

Project	Measurand level or range
Dew point	≥ -95 dp°C ... ≤ 60 dp°C