



THS88 Plus

Industrial High Pressure Low Humidity Dew Point Transmitter

Dew point

www.eyc-tech.com



Features

- Capable of temperature compensation and linear calibration
- Industrial sensor with non-condensing. Pressure resistance : 16 bar
- High pressure, low humidity. Dew point scaling range : -100 ... +60 dp°C
- Standard Modbus RTU protocol, RS-485 communication interface
- High accuracy and long-term stability
- More size of connector for different environment
- Analog output : 0 ... 1 V / 0 ... 5 V / 1 ... 5 V / 0 ... 10 V / 2 ... 10 V / 0 ... 20 mA / 4 ... 20 mA
- Free programmable software which can adjust dew point range and provide more physical quantities such as dew point, frost point, absolute humidity and so on

Applications

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

Specification

Input

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

Output

Max. scaling range	Dew point : -100 ... +60 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 RS-485 & 1 analog output 0 ... 20 mA / 4 ... 20 mA / 0 ... 1 V / 0 ... 5 V / 0 ... 10 V
Signal connection	3-wire
Modbus	Standard RS-485 & 1 analog output
Linear accuracy	$\pm 2 \text{ dp}^\circ\text{C}$ (at +25°C) $\pm (0.02\% \text{ F.S.} / ^\circ\text{C})$ (Operating range of dew point : -60 ... +60 dp°C)
Load resistance	Current output : Max.500 Ω Voltage output : Min.10 K Ω
Output calibration	Software
(ZERO & SPAN) adjustment range	
Response time t90(Temp. at+25°C)	<20 sec

Electrical

Power supply	DC 8 ... 35 V&AC 10 ... 30 V
Current consumption	DC 24 V, 50 mA
Electrical connection	M12 connector

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
Pressure resistance	16 bar

Installation

Installation	Metal connector
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Protection

IP rating	IP65(Probe : IP20)
Electrical protection	■ Polarity protection ■ Over-voltage ■ Short-circuit

Material

Housing	S.S.(SUS304)
Probe	S.S.(SUS304) ; SUS sintered filter(SUS316)
Weight	233 g

Factory setting

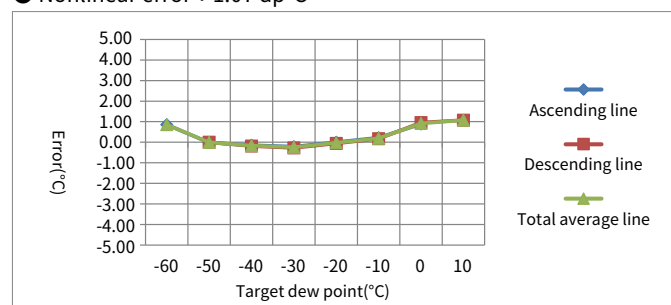
Measuring range of dew point	: -100 ... +20°C ;
Output	: 4 ... 20 mA&standard RS-485

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

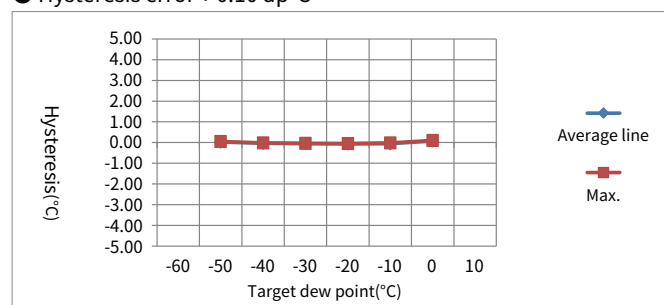
Accuracy Error Curve

※ According to IEC 61298 and ISO 17025 standard to measure

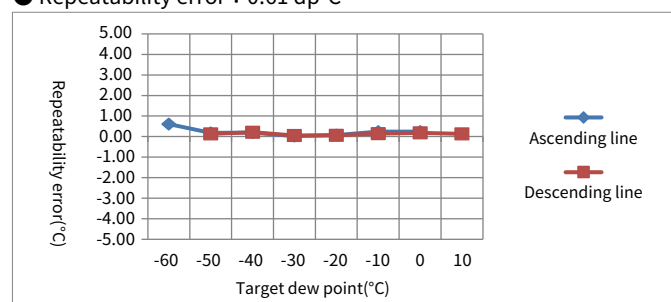
● Nonlinear error : 1.07 dp°C



● Hysteresis error : 0.10 dp°C



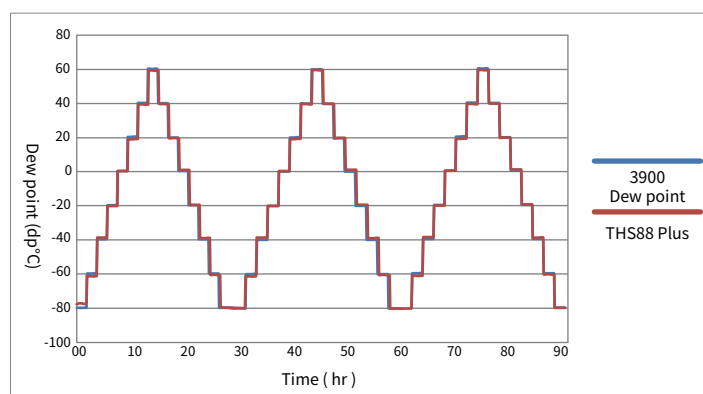
● Repeatability error : 0.61 dp°C



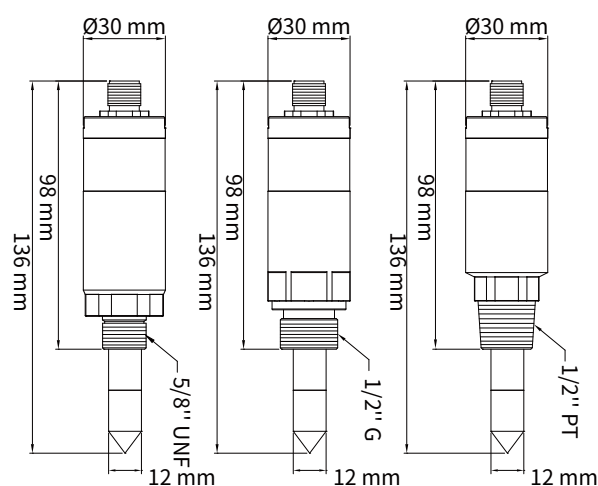
3-cycle Curve

※ 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

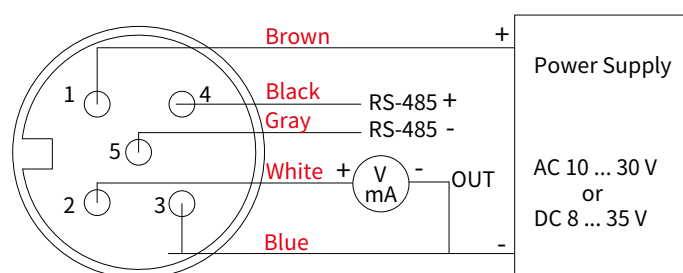


Dimension



※ Standard — PVC-5PIN 2M waterproof cable

Diagram



M12 connector

Reaction Speed Comparison

Before and after upgrade of
THS88 Pluse industrial high pressure low humidity dew point transmitter

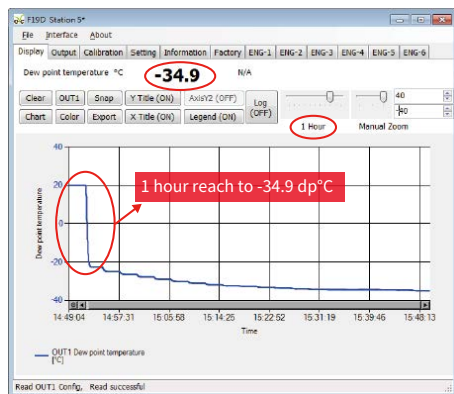
Comparison benchmark :

Test environment 1 : Tested in an alumina chamber

Test condition 2 : THS88 and THS88 Plus are both performed by 20 dp°C

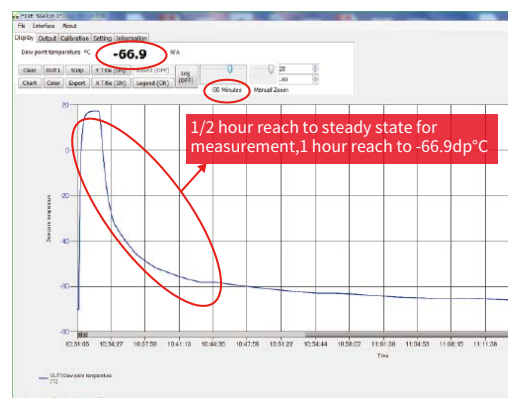
eYc THS88 :

1 hour reach to -34.9 dp°C , 3 hours reach to steady state for measurement



eYc THS88 Plus (Upgrade version) :

1/2 hour reach to steady state for measurement, 1 hour reach to -66.9 dp°C



Dew Point Automatic Inspection System



System Facility

- Thunder 3900 humidity generator
- MBW 373 dew point mirror
- Laboratory level facility to produce products, and automatic QC inspection sheet printing and factory report

Ordering Guide

Type	THS88 Plus	—	C	1
Dew point measuring range	-20 ... +20°C -40 ... +20°C -100 ... +20°C	— — —	A B C	
Connector	1/2" PT (R1/2") 1/2" G 5/8" UNF			1 2 3

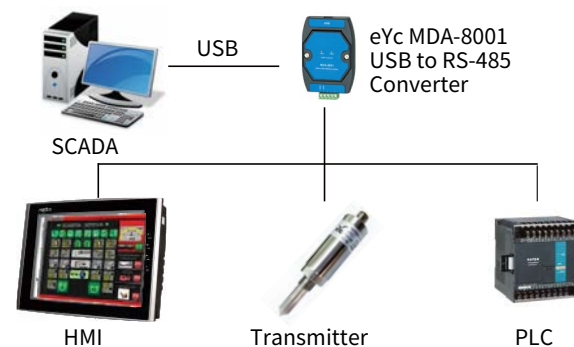
| Additional Option (ILAC / TAF) Test Report |



Additional option : (ILAC / TAF)Test report - Standard calibration laboratory(TAF accreditation : 3032, complying with ISO / IEC 17025)
TAF has mutual recognition arrangement with ILAC MRA

Project	Measurand level or range
Dew point hygrometer	$\geq -80^{\circ}\text{C} \dots \leq 60^{\circ}\text{C}$

USB to Isolated RS-485 Application



Require Device

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