



THS88

Industrial High Pressure Low Humidity Dew Point Transmitter



| 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 : 4 ... 20 mA / 0 ... 20 mA / 0 ... 10 V / 0 ... 5 V / 0 ... 5 V
- 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 & Pt 100 |
| Operating range of dew point | -60 dp°C ... +60 dp°C |

Output

| | |
|---|---|
| Max. scaling range | Dew point : -100 dp°C ... +60 dp°C |
| Dew point switch to another physical quantity range | Frost point : -60 fp°C ... 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 4 ... 20 mA / 0 ... 20 mA / 0 ... 10 V / 0 ... 1 V / 0 ... 5 V |
|---------------|--|

| | |
|-------------------|---|
| Signal connection | 3-wire |
| Linear accuracy | $\pm 2 \text{ dp}^\circ\text{C}(\text{at } +25^\circ\text{C}) \pm (0.02\% \text{ F.S.}/^\circ\text{C})$ |

(Operating range of dew point -60 dp°C ... +60 dp°C)

| | |
|-----------------|--|
| Load resistance | Current output : Max. 500 Ω Voltage output : Min. 10 KΩ |
|-----------------|--|

| | |
|--------------------|----------|
| Output calibration | Software |
|--------------------|----------|

(ZERO & SPAN)adjustment range

| | |
|-----------------------------|---------|
| Response time t90(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 | M12connector |

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 |
|--------------|-----------------|

Protection

| | |
|-----------------------|--|
| IP rating | IP65(Probe : IP20) |
| 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 | S.S.(SUS304) |
| Probe | S.S.(SUS304) |
| | SUS sintered filter(SUS316) |
| Weight | 233 g |

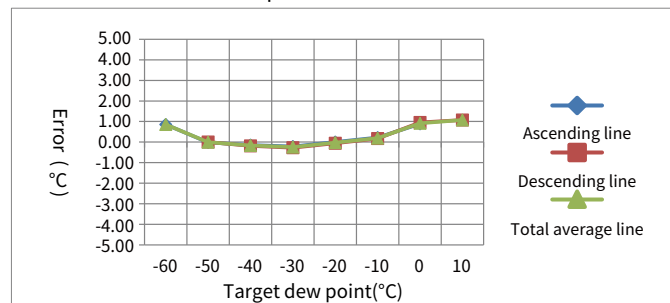
*Factory setting : Measuring range of dew point(-100 dp°C ... +20 dp°C) ; Output : 4 ... 20 mA & standard RS-485

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

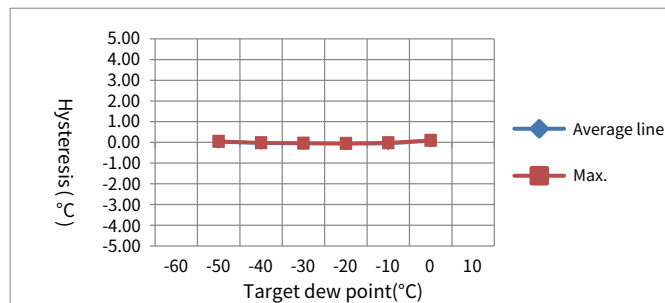
Accuracy Error Curve

*According to IEC 61298 and ISO 17025 standard to measure

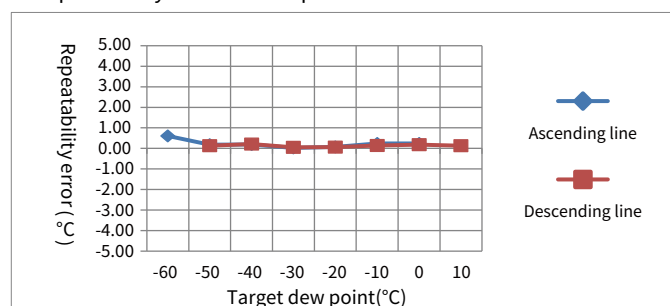
●Nonlinear error : 1.07 dp°C



●Hysteresis error : 0.10 dp°C

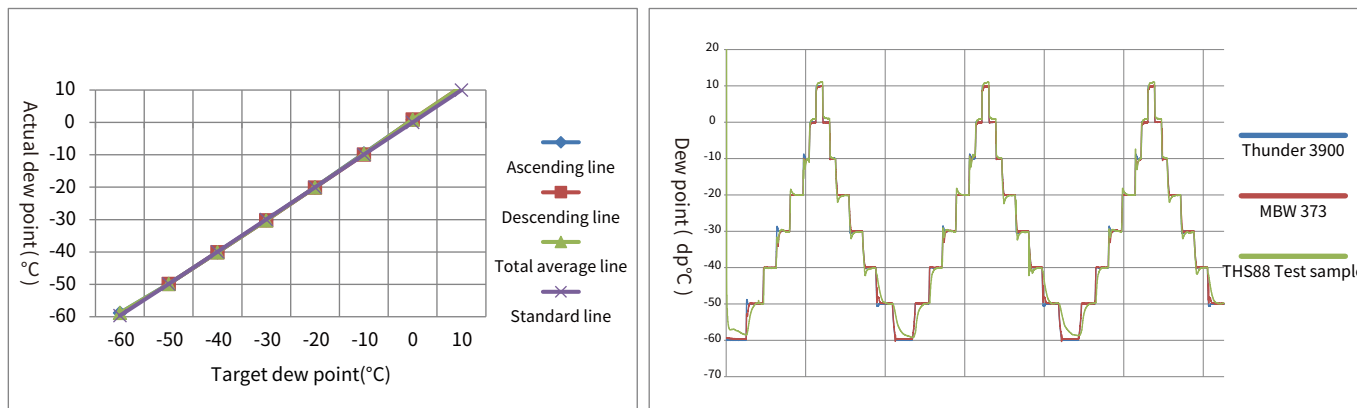


●Repeatability error : 0.61 dp°C

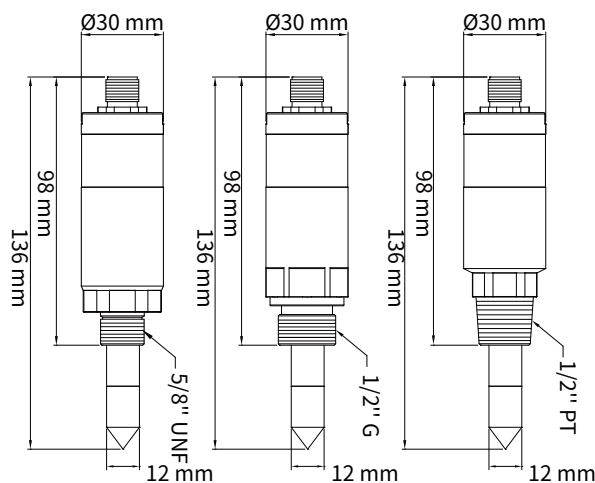


| 3-cycle Curve |

*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

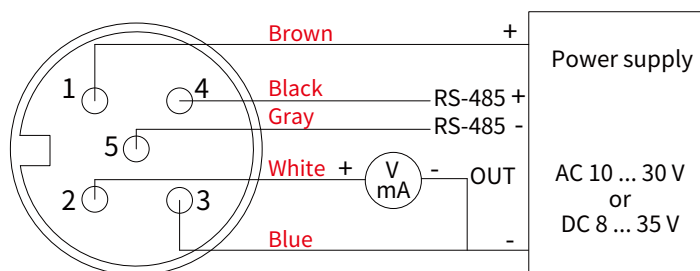


| Dimension |



*Standard — PVC-5PIN 2M waterproof cable

| Diagram |



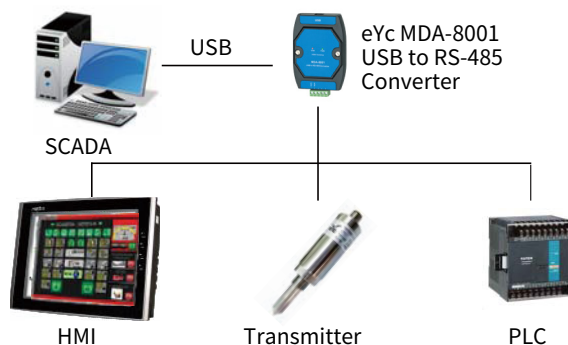
M12 connector

| 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 |

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

| 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 | $\geq -80 \text{ dp}^\circ\text{C} \dots \leq 60 \text{ dp}^\circ\text{C}$ |

■ ISO 9001

| Project | Measurand level or range |
|-----------|--|
| Dew point | $\geq -95 \text{ dp}^\circ\text{C} \dots \leq 60 \text{ dp}^\circ\text{C}$ |