



THS86/87 duct / remote type

Industrial Multifunction Dew Point Transmitter



Application

〈 Feature 〉

- With temperature compensated and linear correction.
- Physical quantity and linear correction output by computer program.
- With RS485 interface and MODBUS RTU protocol.
- Quick metal connector to easy installation.
- Industrial class sensor comes with high accuracy and long-term stability.

〈 Application Field 〉

- Monitoring for storeroom/ crisper/ agriculture/ food industry.
- Monitoring for industrial process/ air conditioning/ environmental ventilation control .
- Temperature and humidity measuring in hospital/ pharmaceutical industry/ textile industry.
- Environmental monitoring for building/ factory/ clean room/ Lab /weather station.

Specification

Input

Input	Capacitive Humidity Sensor & PT 100 Ω
Measuring range list as below	

Output

output	0~20mA / 4~20mA / 0~1VDC / 0~5VDC / 0~10VDC
signal connection	3-wire
ModBus	RS-485 (programmable)
Linear accuracy (at + 25 $^{\circ}\text{C}$)	temp. : $\pm 0.15^{\circ}\text{C} \pm 0.002^{\circ}\text{C} \times \text{tactual}$ dew point : $\pm 3 \text{ dp } ^{\circ}\text{C} \pm (0.02\% \text{F.S./}^{\circ}\text{C})$
Temp. influence pof body (at + 25 $^{\circ}\text{C}$)	0.02%F.S./ $^{\circ}\text{C}$
Load resistance	current output max.500 Ω voltage output min.10K Ω
Output calibration	software
(ZERO & SPAN) adjustment range	
Response time t90	< 30S(SUS sintered filter)
(temp. at +25 $^{\circ}\text{C}$; wind speed $\geq 1\text{m/s}$)	< 20S(metal net filter)
Display type	LCD Module with back ; double line character
Display range	upon request, two decimal place
Height of character	5.56mm

Environment

Media measured	air
Working temp. of body	-20~+60 $^{\circ}\text{C}$
Working humidity of body	0~95 RH % (non-cond.)
Working temp. for LCD housing	0~60 $^{\circ}\text{C}$
Working temp og probe	-40 ~ +80 $^{\circ}\text{C}$
Storage temp.	-25~+60 $^{\circ}\text{C}$
Bearable pressure for probe	10 bar

CE certification	EN 61326-1:2006 、 EN 61326-2-2:2006
Emissions	
	EN55011:2009/A1:2010
Immunity	
	IEC 61000-4-2:2008
	IEC 61000-4-3:2006/A1:2007/A2:2010
	IEC 61000-4-8:2009

Electrical

Power supply	8~35VDC/12~30VAC
Current consumption	DC 24V: 60mA / DC 12V: 120mA
Electrical connection	AC 24V: 140mA / AC 12V: 230mA
	M12 connector (signal)+2P connector(RS-485)

Installation

Installation	metal connector R1/2"
Protection degree	body : IP 65 (probe : IP 20)
Electric protection	Ⓒpolarity protection Ⓒover-voltage Ⓒshort circuit

Material

Housing	PC fire-proof class(PC-110)
Probe	stainless steel (SUS304)+PTFE
Cable	Teflon
Option	fitting thread / metal mounting flange / shield metal grid filter without mesh
Weight	THS86:425g / 451g(display) THS87:450g / 477g(display)

Measuring Range List

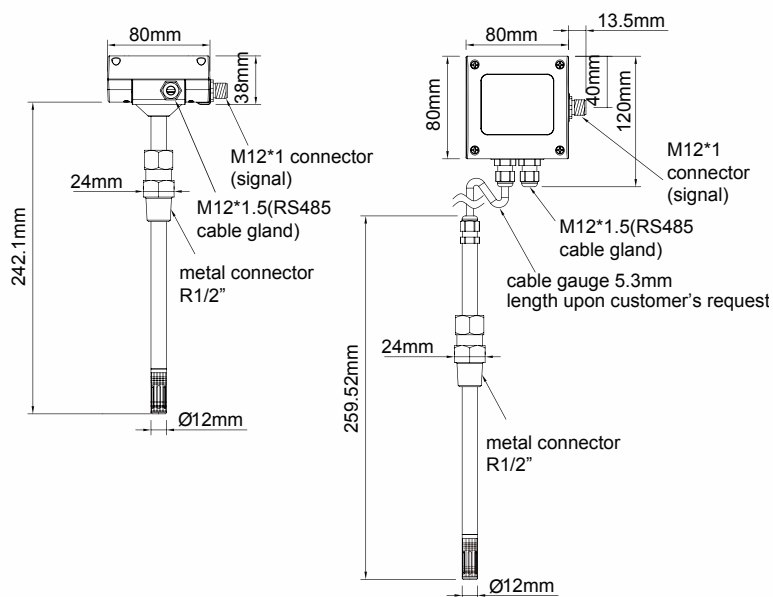
physical quantity	code	Min	Max	unit
temperature	T	-80	80	$^{\circ}\text{C}$
dew point	D	-80	60	dp $^{\circ}\text{C}$
frost point	F	-80	0	fp $^{\circ}\text{C}$
absolute humidity	V	0	32767(analogue)	ppm/v
absolute humidity	G	0	32767(analogue)	ppm/w

※ frost point (F), absolute humidity-volume (V), absolute humidity-volume (G), please refer to the measured range list

Option List

Order No.	THSA-0303	4415000022	AS-HS-S	4425000013	8203104011	8203104014
Product	rafiation shield	metal flange	DIN rail bracket	SUS sintered filter	metal grid filter	L board
Picture						

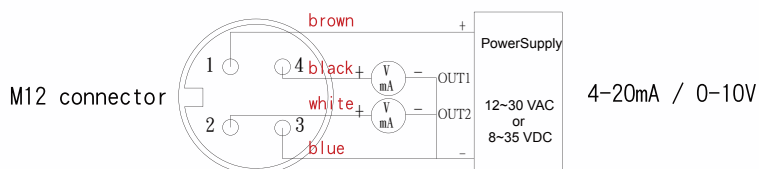
Diagram



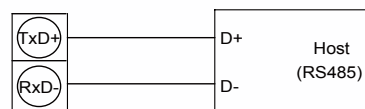
THS86

THS87

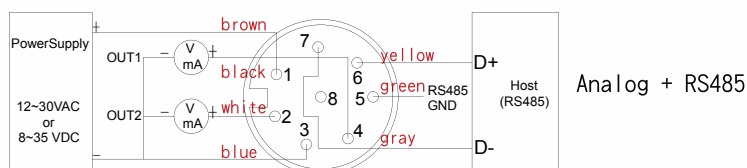
Connection Diagram



Signal Connection



RS485 Signal connector



8P M12 connector

Analog + RS485

Ordering Guide

Ordering Code -----> THS 87 - Y Y Y Y - YY YY - 1 2M

Installation

Output 1 (Physical quantity)

Output 2 (Physical quantity)

Output 1 (Analogue)

Output 2 (Analogue)

Scaling 1 (Physical quantity)

Scaling 2 (Physical quantity)

Electric connector

Option

【Ordering item】

Installation	code	Output 1	code	Output 2	code	Output 1	code	Output 2	code
duct-mounting	86	temp. output	T	temp. output	T	4~20mA	1	4~20mA	1
remote	87	dew point temp.	D	dew point temp.	D	0~20mA	2	0~20mA	2
		frost point temp.	F	frost point temp.	F	0~10V	6	0~10V	6
		absolute humidity(ppm/v)	V	absolute humidity(ppm/v)	V	0~5V	7	0~5V	7
		absolute humidity(ppm/w)	G	absolute humidity(ppm/w)	G	0~1V	8	0~1V	8
			Y		Y	programmable	Y	programmable	Y

Scale 1	code	Scale 2	code	ModBus option	code	Option	code
-40~80℃	20	-40~80℃	20	non	0	2m cable (THS87)	2
0~50℃	30	0~50℃	30	RS-485	1	5m cable (THS87 option)	5
0~80℃	38	0~80℃	38			M12x1connector 4P	M
-20~40 dp ℃	13	-20~40 dp ℃	13			M12x1connector 8P	Q
-40~60 dp ℃	14	-40~60 dp ℃	14			Display	D
-60~20 dp ℃	17	-60~20 dp ℃	17				
-80~20 dp ℃	19	-80~20 dp ℃	19				
-60~60 dp ℃	60	-60~60 dp ℃	60				
programmable	YY	programmable	YY				