

High pressure dew point Transmitter

HTX48 series

User Manual



Feature

- High precision and long term reliability
- Non condensation industrial sensor, 16bar pressure range
- Analog Output: 1-CH 4-20mA
- MODBUS RTU Protocol, RS485 Communication
- Easy installation of connectors of different sizes for different environments
- High Pressure, Low Humidity, Dew Point Measurement Range : -60~40 °C

Application

- Compressed air system, refrigerator, absorber
- Dryer, Industrial drying process, chemical process monitoring

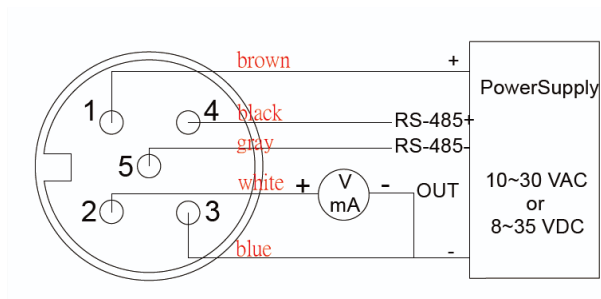


1. Technical data

Power Supply	
Power Supply	8~35 VDC/ 10~30 VAC
Current consumption	DC 24V: 50mA
Connection	M12 connector
Output	
Analog output scale range	Dew Point -60 ~ 40 °C
Dew Point operating range	-60 ~ 40 °C
Analog output	1-Ch 4-20mA
Signal connection	3-wire
Communication Output	RS-485 Modbus
Linear Accuracy (at 25°C)	±2 dp°C (at +25°C) ± (0.02%F.S/°C)
Load resistance	Current Output Max. 500 Ω Voltage Output Min. 10 K Ω
Response Time (at 25°C)	< 20S

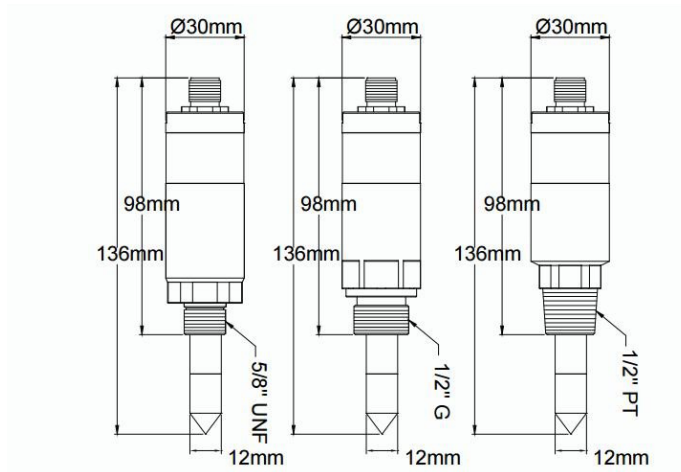
Working environment	
Temperature Range	-40 ~ 80 °C
Humidity Range	0 ~ 95 RH % (Non condensation)
Probe Temperature Range	-70 ~ 80 °C
Storage Temperature	-25 ~ 60 °C
Working pressure range	16 Bar
Material	
Housing	S.S (SUS304)
Probe	S.S (SUS304) / SUS sintered filter (SUS 316)
Weight	233g
IP	IP 65 (Probe IP 20)

2. Connection



M12 connector

3. Dimension



4. Ordering Guide

Ordering code: HTX48 - A 1
 connector

[Ordering item]

Connector	Code
1/2" PT	1
1/2" G	2
5/8" UNF	3

5. Modbus Protocol

Instrument Holding Registers for application engineering

Item no	Address	Address HEX	Parameter	Point Type	Data Type	Value
1	1025	0401H	Temperature	Holding Register	Floating Pt.	°C
2	1029	0405H	Relative Humidity	Holding Register	Floating Pt.	%
3	1099	0409H	Dew Point Temperature	Holding Register	Floating Pt.	°C
4	1037	040DH	Forst Point Temperature	Holding Register	Floating Pt.	°C
5	1041	0411H	Wet Bulb Temperature	Holding Register	Floating Pt.	°C
6	1045	0415H	Saturation Vapour Pressure	Holding Register	Floating Pt.	mbar
7	1049	0419H	Vapour Pressure	Holding Register	Floating Pt.	mbar
8	1053	041DH	Mixture Ratio	Holding Register	Floating Pt.	g/kg
9	1057	0421H	Absolute Humidity	Holding Register	Floating Pt.	g/m ³
10	1061	0425H	Specific Enthalpy	Holding Register	Floating Pt.	kJ/kg
11	1065	0429H	PPM on weight	Holding Register	Floating Pt.	PPMw
12	1069	042DH	PPM on Volume	Holding Register	Floating Pt.	PPMv

Communication Examples

Read Temperature Measurement Value

Request the host(PC or PLC) to polling the data of HTX48			
Field Name	Value	Type	Byte
Slave Address	1~247	Byte	1
Read Holding registers	03	Byte	1
Starting Address Hi	04	Byte	1
Starting Address Lo	00	Byte	1
No. of registers Hi	00	Byte	1
No. of registers Lo	02	Byte	1
CRC Lo	CRC Lo	Byte	1
CRC Hi	CRC Hi	Byte	1

* Regitrrers of Temperature are 0x0400 ~ 0x0403

Response HTX48 response data to the host (PC or PLC)			
Field Name	Value	Type	Byte
Slave Address	1~247	Byte	1
Read Holding registers	03	Byte	1
Byte Count	04	Byte	1
IEEE 754 Data Lo Word, Hi Byte	0xA3	Byte	1
IEEE 754 Data Lo Word, Lo Byte	0xD7	Byte	1
IEEE 754 Data Hi Word, Hi Byte	0x41	Byte	1
IEEE 754 Data Hi Word, Lo Byte	0xBE	Byte	1
CRC Lo	CRC Lo	Byte	1
CRC Hi	CRC Hi	Byte	1

* the floating point number 28.83 is represented in byte of hexadecimal as (41)(BE)(A3)(D7)