

# Taishio

## Multifunction Temperature and Humidity Transmitter - TS30X Series

### Features

- High accuracy and long-term stability
- Capable of temperature compensation and linear adjustment
- Multifunction physical quantities — temperature & humidity/ dew point/ frost point/ wet-bulb temp./ vapor pressure/ mixture ratio/ absolute humidity/ specific enthalpy (upon request)
- Standard MODBUS RS-485 with 2 kinds of analogue output

### Applications

- Monitoring for HVAC process/ air conditioning/ environmental ventilation control
- Building / factory / hospital/ clean room / Lab. / storeroom
- Cooling tank/crisper/environmental chambers/weather station
- Indoor pool/greenhouse/livestock nursery
- Pharmaceutical/textile/agriculture/food/manufacturing industry/monitoring for process/drying facility



### SPECIFICATIONS

Input Type                    Capacitive humidity sensor & PT100 class A  
Temp. operating range    0 ... 50°C (TS301), - 40 ... +80°C (TS302 / 304)  
Humidity operating range  0 ... 100% RH

Output  
Signal connection        3-wire  
Output                      RS-485 or 2 analog output  
                                  4 ... 20 mA / 0 ... 10V  
Modbus                     RS-485 (Programmable) and 2 analog output  
Display type                LCD Module with back light, double line character  
Display range              Upon request, one decimal place  
Height of character        5.56 mm

Linear Accuracy (at 25°C)  
Temperature                ±0.2°C±0.005°Cxtactual  
Humidity                    Nonlinear error : ±1.8%RH  
                                  Repeatability error : ±0.7%RH  
                                  (at+25°C)0.05%RH/°C(of body)  
Temp. influence            Load resistance            Current output : Max.500 Ω  
                                  Voltage output : Min.10 KΩ

Output calibration        Software  
Response time t90         <20 sec(Membrane filter)  
(Temp. at+25°C)         <30 sec(Sintered filter)

Environment  
Medium Air  
Operating Temp.          Housing : - 20 ... + 60°C  
                                  Housing : 0 ... 95%RH(Non-condensing)  
Operating Temp.          Housing : 0 ... 60°C(with display)  
Proof Temp.                PC probe : Max.8 0°C  
Cable                        PVC cable : Max.80°C(Remote type)  
Storage Temp.             - 25 ... + 60°C  
Filter                        Plastic membrane filter(Standard) ; Option

Electrical  
Power supply                DC 8 ... 35 V / AC 12 ... 30 V  
Current consumption       DC 24V: 60 mA / DC 12 V: 120 mA  
                                  AC 24V: 140 mA / AC 12 V: 230 mA  
Electrical connection     M12 metal connector with 2 m cable or terminal(Cable gland)

Certification                CE  
Protection IP rate         Housing: IP65 ; Probe: IP20  
Electric protection        Polarity protection  
                                  Over-voltage  
                                  Short-circuit

Installation                Indoor: Wall mount  
                                  Outdoor: Fixed board for wall type  
                                  (Standard)  
                                  Duct / Remote: Plastic flange (Standard)

Material  
Housing                     PC fire-proof class (PC-110) (UL94V-2)  
Probe                        PC fire-proof class (PC-110)

### MODEL

### DESCRIPTION

TS301	Indoor Temperature and Humidity Transmitter
TS302	Duct Temperature and Humidity Transmitter
TS304	Remote Temperature and Humidity Transmitter

Please refer to the ordering guide

## | Ordering Guide |

TS30

Installation	Physical quantity output 1	Physical quantity scale 1	Signal output 1	Physical quantity output 2	Physical quantity output 2	Signal output 2	Display	Electrical connector	Filter	Remote Cable Length	Other request
4	T	30	1	H	00	1	D	M	P	2	U
1 : Indoor 2 : Duct(PC probe) 4 : Remote(PC probe, PVC cable)	T : Temperature N : RS-485(Default temperature)	30 : 0 ... 50°C 38 : 0 ... 80°C 14 : -40 ... +60°C 00 : RS-485 setting YY : Special range	1 : 4 ... 20 mA 6 : 0 ... 10 V 9 : RS-485	H : Humidity N : RS-485(Default humidity)	00 : 0 ... 100%RH	1 : 4 ... 20 mA 6 : 0 ... 10 V 9 : RS-485	D : Yes X : No	N : Plastic cable gland M : M12 metal connector(with 2 m cable)	P : PC membrane filter (Standard : PC probe) S : Sintered filter (Standard : S.S. probe)	2 : Standard 2 m PVC cable 5 : 5 m PVC cable	W : Other request (Quote as demand) U : RS-485 + analog