



## HT7S

### Humidity cum Temperature Transmitter

Model HT7S Loop powered transmitter series are designed for highly accurate humidity and temperature measurement for a wide range of industrial, pharmaceutical and building automation applications

There are three variants in HT7S series: Humidity transmitter, Humidity transmitter with RTD Pt 100 Passive output and Humidity cum Temperature transmitter.

HT7S series transmitter is available in Wall mount and Duct mount options. Transmitter provides linear output signals directly proportional to relative humidity and temperature.

HT7S series transmitter is available in Weather proof or Ex-proof enclosure options suitable for harsh environment.

HT7S Model provides better than 2% RH accuracy and Class A RTD with excellent long term stability. All these devices provide high performance in a compact design. Loop powered 4-20 mA DC output signals can be fed as input to remote display, recorder, controller or PLC/DCS, over a long distance.

Two-wire connections allow easy installation directly into air ducts or within a controlled area. Most importantly, the right choice of the filter cap enables usage in harsh environmental conditions.

The model HT7S series uses capacitance based sensor for humidity measurement, that is unaffected by high humidity, dust, fog etc. A rugged weather proof enclosure is available to monitor space humidity and temperature.

Optionally available HT7S11-Y model is designed with feature of one Common Positive Loop Line, and gives separated current Outputs for RH and Temperature. Hence it reduces wiring to total 3 wires only. This device is best suitable for interfacing to devices having multichannel Data Acquisition.

#### Features

- Rugged weather proof enclosure with Exproof enclosure as an option
- Available in Wall and Duct mounting versions.
- Three variants.
- Measuring Range: 0-100% RH in models, suitable for many applications
- Class-A RTD Pt 100 sensor used for temperature measurement
- Linearised analog 4-20mA signal output (2wire loop powered)
- Replaceable humidity sensor assembly
- Capacitance based sensing.
- High Accuracy
- Excellent long-term stability

#### Applications

- Ideal for HVAC application
- Building automation
- Pharmaceutical Labs/Industry
- Clean rooms
- Research Laboratories
- Weather telemetry

# Technical Specifications

Variants	HT7S00	HT7S10	HT7S11
<b>Relative Humidity</b>			
Measurement Range	0-100% RH		
Output	4-20 mA (two wire)		
Accuracy at 25° C	± 2% RH (0 to 90%) ± 3% RH (90 to 100%)		
Hysteresis	± 1.3% RH of Operating humidity span		
Repeatability	± 0.6% RH		
Stability	± 1% RH typical at 50% RH in 5 years		
Sensor	Capacitive Sensor		
Sensor Response Time	15 sec in slowly moving air at 25 ° C		
<b>Temperature</b>			
Sensor	NA	Passive Pt-100 (Class A) 0 to 50°C	Passive Pt-100 (Class A) 0 to 50°C
Output	NA	Pt 100, 3W	4 - 20 mA (two wire)
Accuracy at 25° C	NA	± 0.2% of FS	± 0.2% of FS
<b>Power Supply</b>			
Supply Voltage	12 to 36 VDC for Resistive Load		
Maximum Loop Resistance	R <sub>Load</sub> = ((Supply Voltage – 12) / 0.021) Ohm		
<b>Physical</b>			
Mounting	Wall Mount (Std) / Duct Mount (optional)		
<b>Dimensions (in mm)</b>			
Wall Mount	80 (H) x 82(W) x 55(D)		
Duct Mount	80 (H) x 82 (W) x 55(D) with 150mm Duct**		
Exproof Duct Mount	100 (H) x 90 (W) x 106(D) with 150mm Duct**		
<b>Material</b>			
Weather proof Enclosure	ABS		
Ex-proof Enclosure (optional)	Aluminum Alloy (LM-6)		
Duct (optional)	SS316		
Flange (optional)	Nylon		
<b>IP (Ingress Protection)</b>			
Weather proof Enclosure	Enclosure IP-65		
Ex-proof Enclosure (optional)	Enclosure IP-66 [Group Zone: IIA/IIB]		
<b>Weight</b>			
Wall Mount	300 gm Approx.		
Duct Mount	500 gm Approx.		
Exproof Duct Mount	1.1 Kg Approx.		
<b>Cable Gland</b>			
Wall Mount / Duct Mount	PG 7		
Exproof Duct Mount	3/4" ET		
Terminal Type	Screw Type		
<b>Terminal Cable Size</b>	2.5 mm <sup>2</sup> , AWG 14 ( single/stranded wires)		
<b>Environmental</b>			
Operating Temperature	0 to 55°C (Weather proof); 0 to 85°C (Ex-proof)		
Storage Temperature	0 to 80°C		
Humidity	0 to 100% (non condensing)		

## ORDERING CODE

Model	Transmitter Type		Mounting Type		Duct Mounting Flange	
HT7S	XX		XX		X	
	00	Humidity Transmitter	W0	Wall Mount	N	No
	10	Humidity Transmitter with Pt-100 Passive Output	D0	Duct Mount	Y	Yes
	11	Humidity + Temperature Transmitter	DX	Ex-Proof Duct Mount*		
	11-Y	Humidity + Temperature Transmitter with common Power Rail				

\*Ex-proof option available in Duct Mount only

\*\*For other than standard duct size (150 mm) please contact factory