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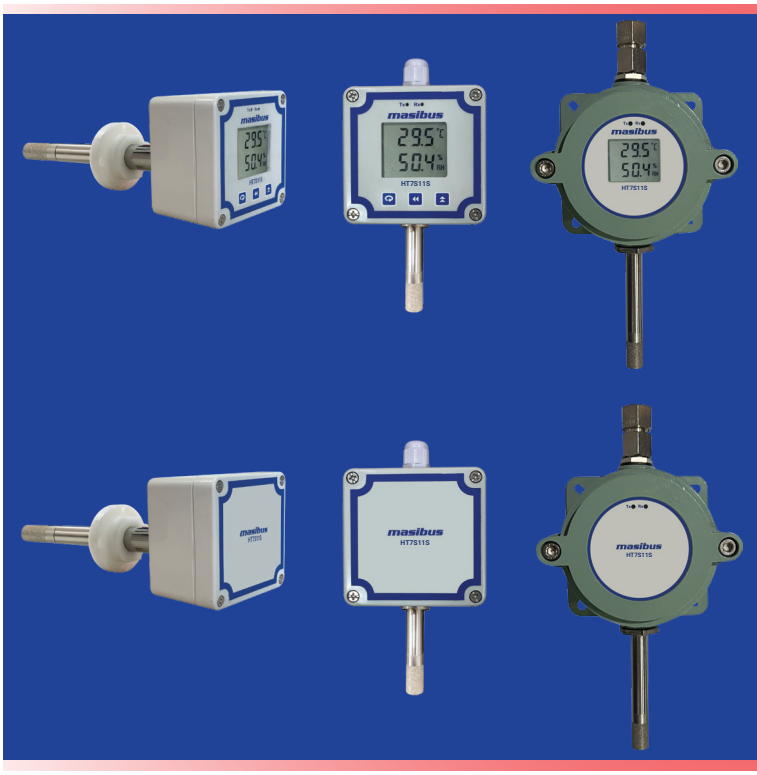

HT7S11S

Humidity and Temperature Transmitter

Digital Measurement | Robust | Accurate | PC based Configuration | Isolated

HT7S11S transmitter is designed for excellent accurate humidity and temperature measurement and signal conditioning for a wide range of industrial, pharmaceutical and building automation applications.

HT7S11S transmitter is available in options like wall mount, duct mount, Ex-Proof wall mount for both loop and aux. powered to suite various industrial environments. Transmitter provides linear output signals proportional to relative humidity and temperature.

It provides better than ±2.5% (for 0 to 90% RH) ,±3.5% (for 90 to 100% RH) RH accuracy, ±0.4 °C temperature accuracy and having digital sensor with fully calibrated, linearized and temperature compensated output. All these devices provide high performance in a compact design loop power transmitter available with or without display and aux. powered version available with display. Transmitter with display is equipped with configuration mode using which user can set zero and span values of input as well as output.

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. In aux. power devices, data acquisition can be done on SCADA/ PLC application through RS-485 using modbus protocol.

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.

Loop power model generates 2 nos. 2-wire output that can be assigned to RH or temperature using output mapping configuration.

Features

- Wide loop supply voltage range from 10VDC to 36VDC
- Custom built LCD display
- Configurable temperature unit measurement in celsius/fahrenheit/kelvin
- Available in wall and duct mount
- Configurable by front keypad (Available in device with display)
- High reliability and long-term stability
- High accuracy
- Advanced digital RH+T sensor technology
- Calibration not required for digital RH+T sensor
- PC based software for configuration, calibration & monitoring
- Linearized analog 4-20mA signal output
- In loop power model, output can be configured for 2 x RH outputs, 2 x temperature outputs, or 1 x RH + 1 x T output
- Both output are isolated in loop power model
- Isolated RS-485 communication with aux. powered model
- Ex-Proof protection for gas groups IIA/IIB (for Ex-Proof model)

Applications

- Ideal for HVAC application
- Building automation
- Pharmaceutical labs/industry
- Clean rooms
- Air quality monitor
- Research laboratories
- Green house monitor
- Weather telemetry
- Blood stations, pharmacies
- Data acquisition, analysis and processing

TECHNICAL SPECIFICATIONS

Input

Input Type	Humidity	Temperature
Integral	Yes	Yes
Measurement Range	0-100%RH	0 to 60 °C / 32 to 140 °F 273 to 333 K
Accuracy@25 °C	±2% (0 to 90% RH) ±3% (90 to 100% RH)	±0.4 °C
Accuracy Over Temp. 0 to 60 °C	±2.5% (0 to 90% RH) ±3.5% (90 to 100% RH)	±0.6 °C
Repeatability	0.25%	0.24 °C
Hysteresis	0.8%	X
Resolution	0.1%	0.1 °C
Response Time	12 Sec. typically	
Long Term Drift	< 0.25% RH/year typical	< 0.03 °C/ year

Display & Keys (Optional)

Process Value	2 x 4 digit,7 - segment 0.39" LCD
Keys	Push button: ENT, ESC, INC for configuration and calibration (Not available in Ex-Proof model)

Output (for loop power model)

No. of Output	2 (Isolated from each other)
Signal	4-20mA (Direct or reverse user configurable)
Accuracy	±0.1% of FS
Temp. Co-Efficient	≤100 ppm
Load	Rload = ((loop supply voltage–10)/0.021) Ohm
Sensor Break Output	<3.6 or >21mA programmable

Communication

	Loop Powered	Aux. Powered
Interface	TTL	RS-485
Protocol	Modbus RTU	
Baud Rate	4800, 9600, 19200, 115200 bps	

Power Supply

Loop Powered Model	10 to 36VDC with reverse polarity protection
Aux. Powered Model	18 to 36 VDC with reverse polarity protection <0.5W Power consumption

Isolation

Loop Powered Model	1000Vrms for 1 minute between loop output-1 and output-2
Aux. Powered Model	1000Vrms for 1 minute between supply and RS-485 output

Physical

Mounting	Wall Mount	Duct Mount	Ex-Proof Wall Mount
Weight	~ 300 gms	~ 500 gms	~1 Kg
Enclosure Dimension (mm)	80(H) x 82(W) x 55(D)		140(H) x 145(W) x 80(D)
Length of Pipe with Filter (mm)	68mm	213mm	100mm
Enclosure Material	ABS		Aluminium alloy LM-6
Enclosure Gas Group Protection	-		IIA/IIB
IP (Ingress Protection)	IP-65		
Cable Entry Gland	PG 7		M20 Double compression
Cable Terminal Type	2.5 mm2 , AWG 14 wire, screw type		
Pipe Material	SS304		
Duct Pipe Flange		Nylon (Optional)	
Filter Material	Sintered SS316 filter		

Environmental

Operating Temperature	0 to 60°C
Storage Temperature	-10° to 70°C
Humidity	0% to 100% RH (Non-condensing)

Ordering Code

Model	Power		Display		Mounting Type		Duct Mounting Flange	
HT7S11S	X		X		XX		X	
	L	Loop	Y	Yes	WO	Wall Mount	N	No
	A	Aux.	N*	No	DO	Duct Mount	Y	Yes
					WX	Ex. Proof Wall Mount		

*Applicable for Loop Power Model

Cable Accessory for Loop Power Model (Extra Cost)

Part No.	Description
TTS7CC	Configuration cable

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All specifications are subject to change without notice due to continuous improvements.
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