

# AMBIENT & PROCESS Humidity & Temperature Sensor with Modbus output MBRTU-ATH

SKU: MBRTU-ATH

Doc No: MBRTU-ATH-DS-EN-10

## Introduction

MBRTU-ATH Humidity and Temperature Sensor utilizes digital temperature sensor delivers high accuracy measurement in range -40 to + 85 oC for ambient version or -40 to + 120 oC for Process version. Output is Modbus RTU for easily integrating with any PLC, controller, SCADA, BMS or IoT gateway.

- 1 Digital sensor technology;
- 1 High accuracy;
- 1 Standard ModbusRTU output;
- 1 Plug & Play.

## Typical Applications

MBRTU-ATH can be used widely in the followings:

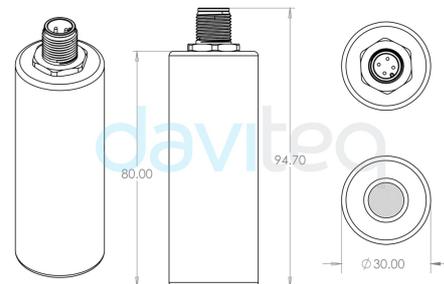
- 1 Ambient Humidity and Temperature Monitoring for Factory, Building, Warehouse, Datacenter, HVAC...
- 1 Process Humidity and Temperature Monitoring for Food processing....

AMBIENT HUMIDITY & TEMPERATURE SENSOR  
WITH MODBUS OUTPUT  
MBRTU-ATH



MBRTU-ATH-H1.PNG

DIMENSION DRAWING OF MODBUS OUTPUT SENSOR  
(Unit: mm)



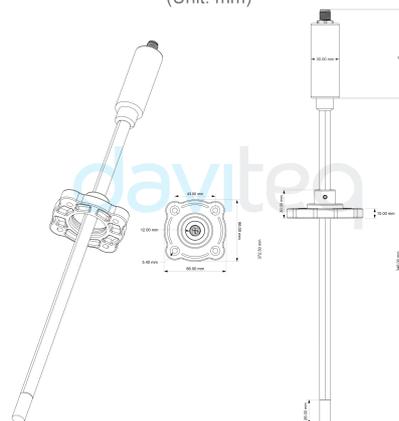
MBRTU-ATH-H2.PNG

PROCESS HUMIDITY & TEMPERATURE SENSOR  
WITH MODBUS OUTPUT



MBRTU-ATH-H4.PNG

DIMENSION DRAWINGS OF  
PROCESS HUMIDITY & TEMPERATURE SENSOR  
MBRTU-ATH-15-...  
(Unit: mm)



MBRTU-ATH-H5.PNG

**MONITORING AMBIENT HUMIDITY & TEMPERATURE  
IN WAREHOUSE**



MBRTU-ATH-H3.PNG

## Specification

<b>SENSOR SPECIFICATION for AMBIENT VERSION</b>	
Sensor	Digital type, factory calibrated, output both Humidity & Temperature values
Humidity measuring range	0 .. 100 %RH
Humidity accuracy	+/- 3.0%
Humidity resolution	0.1%
Temperature measuring range	-40 .. + 85 oC
Temperature accuracy	+/- 1.0 oC
Temperature resolution	0.1 oC
Sensor Filter	PA (for integrated version) OR 20um Alloy sintered filter (for sensor with cable)
<b>SENSOR SPECIFICATION for PROCESS VERSION</b>	
Sensor	Digital type, factory calibrated, output both Humidity & Temperature values
Humidity measuring range	0 .. 100 %RH
Humidity accuracy	+/- 1.8% RH typical in 30-70%RH range and 0-80 oC
Humidity resolution	0.1%
Temperature measuring range	-40 .. + 120 oC
Temperature accuracy	+/- 0.5 oC in 0-100 oC range
Temperature resolution	0.1 oC
Sensor Filter	20um Alloy sintered filter (for sensor with cable)

Sensor Probe	12mm diameter, 304SS with sliding flange Probe length: 300mm, 600mm, 900mm
Working pressure	atmosphere
<b>SENSOR SPECIFICATION for OUTDOOR AMBIENT VERSION -ATHP</b>	
Sensor	Digital type, factory calibrated, output both Humidity & Temperature values
Humidity measuring range	0 .. 100 %RH
Humidity accuracy	+/- 1.8% RH typical in 30-70%RH range and 0-80 oC
Humidity resolution	0.1%
Temperature measuring range	-40 .. + 120 oC
Temperature accuracy	+/- 0.5 oC in 0-100 oC range
Temperature resolution	0.1 oC
Barometric Pressure range	300 .. 1200 mbar abs. (in -20 .. + 85 oC)
Pressure accuracy	+/- 4 mbar (in full measurement range as above)
Pressure resolution	0.1 mbar
Outdoor protection	IP67 electronics housing with Radiation shield with filter for sensor parts
<b>TRANSMITTER SPECIFICATION</b>	
Communication Port	RS485, ModbusRTU protocol, max 19200 baud
Power supply	7..48VDC, avg. < 200mA
Connector	M12-male 4-pin Code A
Working temperature	-40 .. 85 oC
Working humidity	0 .. 100% RH
Housing	304SS
Rating	IP67
Dimension	H100xD30 (without sensor cable)
Mounting	AMBIENT: SS304 L type bracket for wall mounting PROCESS: integral on probe
Net weight	<200 grams

## Ordering Code

Item code	Descriptions
MBRTU-ATH-01	<b>INDOOR AMBIENT</b> HUMIDITY AND TEMPERATURE SENSOR, INTEGRATED TYPE, -40 .. + 85 C, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-MALE
MBRTU-ATH-12-300	<b>INDOOR AMBIENT</b> HUMIDITY AND TEMPERATURE SENSOR, CABLE TYPE 300MM, -40 .. + 85 C, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-MALE

MBRTU-ATHP-01	<b>OUTDOOR AMBIENT</b> HUMIDITY TEMPERATURE AND BAROMETRIC PRESSURE SENSOR, WITH <b>RADIATION SHIELD</b> , -40 .. +85 C, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-MALE
MBRTU-ATH-15-300	<b>PROCESS</b> HUMIDITY AND TEMPERATURE SENSOR, -40 .. +120 C, 300MM PROBE, ALL 304SS MATERIAL, SLIDING-FLANGE, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-M CONNECTOR
MBRTU-ATH-15-600	<b>PROCESS</b> HUMIDITY AND TEMPERATURE SENSOR, -40 .. +120 C, 600MM PROBE, ALL 304SS MATERIAL, SLIDING-FLANGE, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-M CONNECTOR
MBRTU-ATH-15-900	<b>PROCESS</b> HUMIDITY AND TEMPERATURE SENSOR, -40 .. +120 C, 900MM PROBE, ALL 304SS MATERIAL, SLIDING-FLANGE, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-M CONNECTOR
Please select below M12 cable with different lengths	
2M-FM12CAB4X0.25	M12 4PIN FEMALE ASSEMBLY CONNECTOR WITH SOLDERING TERMINALS AND CODING A AND CONTROL CABLE CU/PVC/OS/PVC 4X0.25MM2, L=2M, ROHS, SHIELD 80%
5M-FM12CAB4X0.25	M12 4PIN FEMALE ASSEMBLY CONNECTOR WITH SOLDERING TERMINALS AND CODING A AND CONTROL CABLE CU/PVC/OS/PVC 4X0.25MM2, L=5M, ROHS, SHIELD 80%
10M-FM12CAB4X0.25	M12 4PIN FEMALE ASSEMBLY CONNECTOR WITH SOLDERING TERMINALS AND CODING A AND CONTROL CABLE CU/PVC/OS/PVC 4X0.25MM2, L=10M, ROHS, SHIELD 80%

 Link for full datasheet: <https://filerun.daviteq.com/wl/?id=hf3XEx1aPluEEwZ6oLZFzJT0WMKhzf4>

 Link for manual:

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