

# 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:

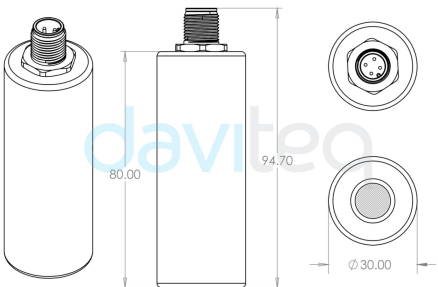
- 1 Ambient Humidity and Temperature Monitoring for Factory, Building, Warehouse, Datacenter, HVAC...
- 1 Process Humidity and Temperature Monitoring for Food processing....

AMBIENT HUMIDITY & TEMPERATURE SENSOR  
WITH MODBUS OUTPUT  
MBRTU-ATH



MBRTU-ATH-H1.PNG

DIMENSION DRAWING OF MODBUS OUTPUT SENSOR  
(Unit: mm)



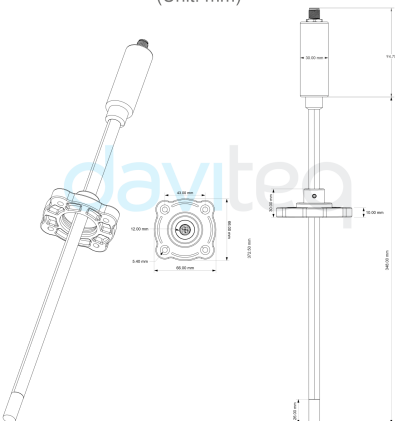
MBRTU-ATH-H2.PNG

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

SENSOR SPECIFICATION for AMBIENT VERSION	
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)
SENSOR SPECIFICATION for PROCESS VERSION	
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=hf3XEx1aPluEEwZ6oLZFzFJT0WMKhzf4>

🔗 Link for manual:



Daviteq Technologies Inc



[www.daviteq.com](http://www.daviteq.com)



[info@daviteq.com](mailto:info@daviteq.com)

🔄 Revision #17

★ Created Fri, Oct 23, 2020 9:42 AM by [Lộc Vĩnh Nguyễn](#)

✎ Updated Tue, Jul 27, 2021 7:18 PM by [Kiệt Anh Nguyễn](#)