

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:

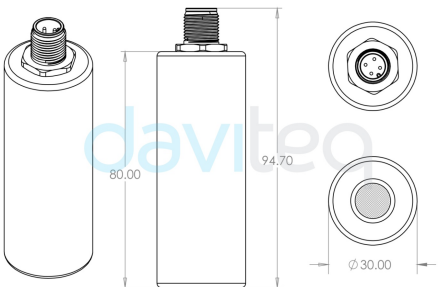
- 1 Ambient Humidity and Temperature Monitoring for Factory, Building, Warehouse, Datacenter, HVAC...
- 1 Process Humidity and Temperature Monitoring for Food processing....

AMBIENT HUMIDITY & TEMPERATURE SENSOR
WITH MODBUS OUTPUT
MBRTU-ATH



MBRTU-ATH-H1.PNG

DIMENSION DRAWING OF MODBUS OUTPUT SENSOR
(Unit: mm)



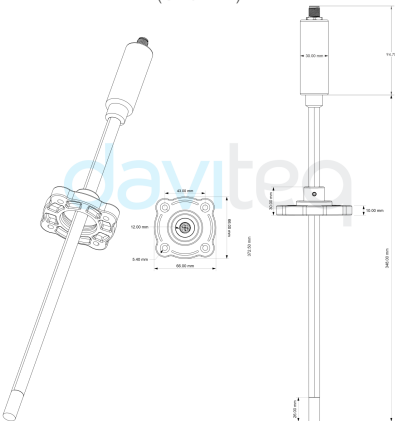
MBRTU-ATH-H2.PNG

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 |
| SENSOR SPECIFICATION for OUTDOOR AMBIENT VERSION -ATHP | |
| 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 |
| TRANSMITTER SPECIFICATION | |
| 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 | INDOOR AMBIENT HUMIDITY AND TEMPERATURE SENSOR, INTEGRATED TYPE, -40 .. + 85 C, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-MALE |
| MBRTU-ATH-12-300 | INDOOR AMBIENT HUMIDITY AND TEMPERATURE SENSOR, CABLE TYPE 300MM, -40 .. + 85 C, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-MALE |

| | |
|--|---|
| MBRTU-ATHP-01 | OUTDOOR AMBIENT HUMIDITY TEMPERATURE AND BAROMETRIC PRESSURE SENSOR, WITH RADIATION SHIELD , -40 .. +85 C, RS485/MODBUSRTU, 7..48VDC SUPPLY, M12-MALE |
| MBRTU-ATH-15-300 | PROCESS 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 | PROCESS 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 | PROCESS 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:



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🔄 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](#)