AROYA

METER

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1. INTRODUCTION

Thank you for choosing the AROYA system from METER Group, Inc. USA. Prior to use, verify the sensor arrived in good condition.

The AROYA Gateway (H210—Figure 5 and Figure 6) is powered over a Power Over Ethernet (POE) enabled device that is compliant with IEEE 802.3af Power Over Ethernet standards. The H210 Gateway sends and receives data transmitted by the router or sensor stations and provides the system with an active connection to the cloud server where all data is processed and presented to the user.

The AROYA Router (H110—Figure 7) and AROYA Router Climate (H111—Figure 8) are both powered over a POE enabled device and function as range extenders. The Router/Router Climate receives data from the Sensor Station/Sensor Nose and transmits data to the Gateway over ethernet. In addition to being a range extender, the Router Climate can also support SDI-12 sensor communication to capture microclimate sensor data (Section 3.2.2). An ATMOS 14 temperature and relative humidity (RH) sensor and radiation shield are attached to the H110 Router. The data collected by the sensor is also transmitted to the Gateway over Ethernet and uses POE.

The AROYA Sensor Station (H310—Figure 8 and Figure 9) and AROYA Sensor Nose (H311—Figure 10 and Figure 11) both contain a TEROS 12 soil moisture sensor, location for plant measuring plant soil moisture, communications components, and an antenna to communicates data gathered by the TEROS 12 to the router or directly to the gateway if the Sensor Station/Sensor Nose is close enough.

The AROYA system works in a Bluetooth® mesh network. A Bluetooth network allows data and files to be transferred from one system to the other through wireless transmission. The AROYA system components are FCC approved (Class A) and can communicate wirelessly between each other. The Sensor Station/Sensor Nose can communicate data to the Router/Router Climate or Gateway if close enough for the transmission to occur. The Sensor Station/Sensor Base can also transmit data to each other on its way to the Gateway. Routers are used as range extension for the network to help transmitt data from the Station/Nose units that are located furthest from the Gateway. Figure 1 shows a diagram of an AROYA mesh network.

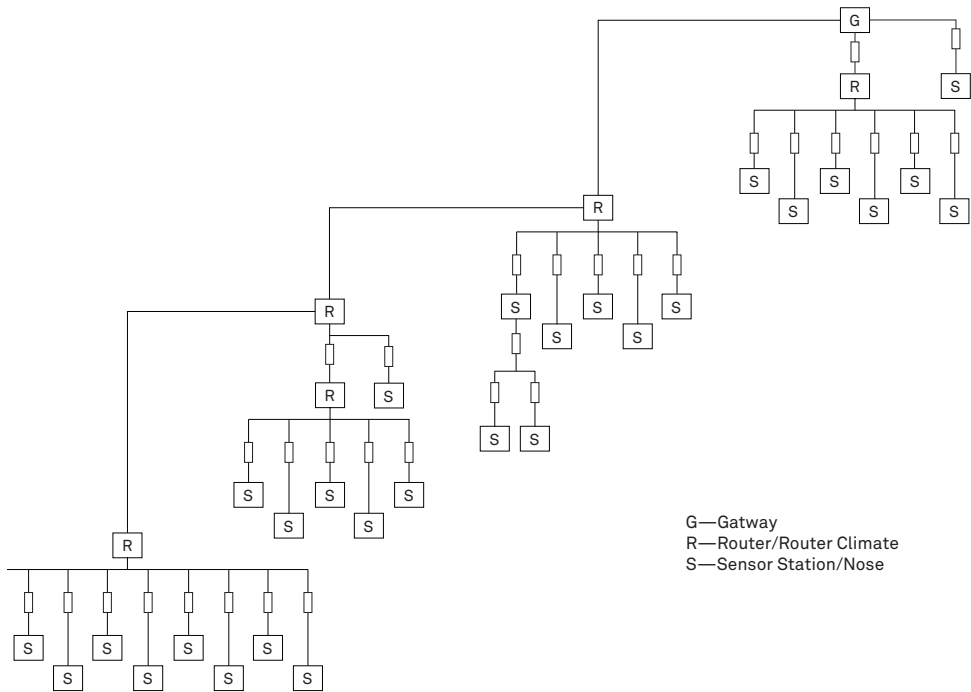**Figure 1   AROYA system Bluetooth mesh network example**

G—Gatway
R—Router/Router Climate
S—Sensor Station/Nose

2. OPERATION

Please read all instructions before operating the AROYA to ensure it performs to its full potential.

⚠ PRECAUTIONS

METER sensors are built to the highest standards, but misuse, improper protection, or improper installation may damage the sensor and possibly void the manufacturer's warranty. Before integrating AROYA into a system, make sure to follow the recommended installation instructions and have the proper protections in place to safeguard sensors from damage.

2.1 INSTALLATION

Follow the steps listed in Table 1 to set up the Gateway.

Table 1   AROYA Gateway (H210) Installation

Tools Needed	Cordless drill
	Screw driver
	Screws
	Mounting bracket (optional)
Preparation	**Consider the Surroundings**
	Locate the Gateway in a closet or office with internet access for POE. The site network infrastructure will determine what installation method is required so the Gateway can communicate with other parts of the system. If this is not possible, locate the Gateway wherever there is access to connections required to establish communication.
	The Gateway needs to be close enough to the Router(s) for the signal from the Router to reach the Gateway.
	Check Sensor Functionality
	If the gateway is being connected to the existing network, plug the POE connector wire into the wall port. Plug the other end of the connector cable into the Gateway.
	If the Gateway is not in a closet, plug one end of a POE injector into an Ethernet port and power outlet and the other end into the Gateway.
	After the Gateway is plugged in, look at the bottom where the cable is plugged in and check for LED lights.
	An LED light on the front/top flashes orange (Figure 7) and and indicates there is an active connection and the LED light on the back/bottom glows red if the device is powered on and has an active connection.
	NOTE: The LED on the front/top may flash green if the internet connection is slow. Both green and orange flashing LED indicate an active connection.

Table 1 H210 Gateway Installation (continued)

Mounting	METER recommends mounting the Gateway on a wall with the cable ports at the bottom. Punch holes in the bottom of the mounting bracket. Make the holes large enough to countersink the screws so the heads are below or flush with the bracket surface. Use a cordless drill with screwdriver attachments to screw the mounting bracket to the wall. **NOTE: Countersink the screws so the screw head does not interfere with sliding the Gateway into the bracket. The screw heads should be below or flush with the bracket surface so the Gateway will not slip into the mounting bracket properly and may scratch the surface of the Gateway.** The Gateway can also be located on a table or desk.
Configuration	All system configuration work is done at METER before installation occurs at the customer site.
Connecting	The devices must be powered on for the system to function. Once the devices have been installed and properly powered, the system will automatically begin communication with the user's server (assuming the user has successfully set up their AROYA cloud services account). Verify the Router is connected to the internet and functional by looking for a steady red LED light on the surface shown in Figure 6.

Follow the steps listed in Table 2 to set up the AROYA Router.

Table 2 Router (H110) Installation

Preparation	**Consider the Surroundings** METER recommends installing the Router in the center of each room of the greenhouse to facilitate quality communication to the Gateway. The Router should be in an area where the environment is as consistent as possible. If a fogger is set up in the center of a room, set up the Router in a location away from the fogger.
Mounting	The Router (H110) has no installation location stipulations. METER recommends installing the Router in a hallway.
Configuration	All system configuration work is done at METER before installation occurs at the customer site.
Connecting	**Connect Router to Internet and Verify** Connect a CAT 5/6 Ethernet cable (or better) to the Router (Figure 7) injector module. Verify the Router is connected to the internet and functional by looking for a steady blue LED light on the surface shown in Figure 7.

Follow the steps listed in Table 3 to set up the AROYA Router Climate.

Table 3   Router Climate (H111) Installation

Tools Needed	Grow light hanger (e.g., rope ratchet clip hanger)
	Chain/cable/rope
Preparation	**Consider the Surroundings**
	METER recommends installing the Router Climate in the center of each room of the greenhouse to facilitate quality communication to the Gateway.
	The Router Climate should be in an area where the environment is as consistent as possible. If a fogger is set up in the center of a room, set up the Router in a location away from the fogger.
Mounting	METER recommends installing the Router Climate in the center of each room of the greenhouse to facilitate quality communication to the Gateway.
Configuration	All system configuration work is done at METER before installation occurs at the customer site.
Connecting	**Connect Router to Internet and Verify**
	Connect a CAT 5/6 Ethernet cable (or better) to the Router Climate and to an Ethernet injector module.
	Verify the Router Climate is connected to the internet and functional by looking for a steady blue LED light on the surface shown in Figure 7.

Follow the steps listed in Table 4 to set up the AROYA Sensor Station.

Table 4   H310 Sensor Station Installation

Preparation	**Consider the Surroundings**
	The Sensor Station should be set up at predetermined intervals along the table where plant cubes or coco bags are located.
	Check Sensor Functionality
	Press function button until the LED flashes green.
Mounting	Insert plant cubes or a coco bag into the sensor station and set the sensor station on the table or shelf with other plants.
Configuration	All system configuration work is done at METER before installation occurs at the customer site.

Table 4   H311 Sensor Station Installation (continued)

Connecting	**Connect Router to Internet and Verify** The Sensor Station is shipped to the customer in SLEEP mode, indicated by a solid red STATUS LED light. To wake the Sensor Station up, press the button (Figure 9) one, two, or three times to trigger the green LED. The device has enetered the ON mode when the STATUS LED shows solid green. **NOTE: The unit toggles between ON and SLEEP mode after the button is pressed three times. It remembers when the three button presses happen, even if they are days apart. If the button is pressed once today, once tomorrow, and once the following day, the base will either turn ON or go into SLEEP mode, depending on what state it was in prior to the third button press.**

Follow the steps listed in Table 5 to set up the AROYA Sensor Station.

Table 5   H311 Sensor Nose Installation

Tools Needed	AROYA Sensor Nose
Preparation	**Consider the Surroundings** The Sensor Nose is used with slabs or larger substrate types. The TEROS 12 needles are inserted into the slabs or larger substrate. Make sure there is adequate table space near the slabs or larger substrate to place the Sensor Nose on so enough light can reach the solar sensors to recharge battery.. **Check Sensor Functionality** Press the function button (Figure 11) until the LED flashes green.
Mounting	Insert sensor into slabs or larger substrate types.
Configuration	All system configuration work is done at METER before installation occurs at the customer site.
Connecting	**Connect Router to Internet and Verify** The Sensor Station is shipped to the customer in SLEEP mode, indicated by a solid red status LED light on the end where the cable is connected. To wake the Sensor Station up, press the button one, two, or three times to trigger the green LED. Status LED showing solid green indicates the device has entered the ON mode. **NOTE: The unit toggles between ON and SLEEP mode after the button is pressed three times. It does not matter when the three button presses happen. For instance, if the button is pressed once today, once tomorrow, and once the following day, the base will either turn ON or go into SLEEP mode, depending on what state it was in prior to the third button press.**

3. SYSTEM

This section describes the specifications, components of the AROYA Gateway, Router, Router Climate, Sensor Station, and Sensor Base.

3.1 SPECIFICATIONS

MEASUREMENT SPECIFICATIONS

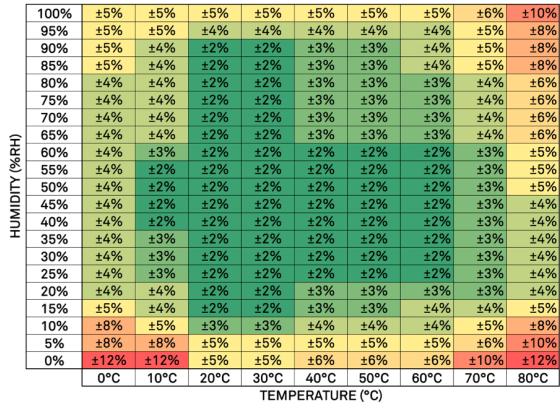| ATMOS 14 Temperature and Relative Humidity (RH) Sensor	
Relative Humidity (RH)	
Range	0–100% RH (0.00–1.00)
Resolution	0.1% RH
Accuracy	Sensor measurement accuracy is variable across a range of RH. Refer to the chart in Figure 2.

Figure 2   RH sensor accuracy

Equilibration Time (τ, 63%)	<40 s (response time in 1 m/s air stream)
Hysteresis	<1% RH, typical
Long-Term Drift	<0.5% RH/year, typical
Temperature	
Range	−40 to 80 °C
Resolution	0.1 °C

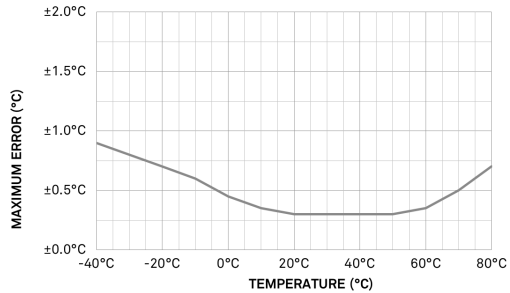| Accuracy	Sensor measurement accuracy is variable across a range of temperatures. Refer to the chart in Figure 3.

Figure 3 Temperature sensor accuracy

Equilibration Time (τ, 63%)	<400 s (response time in 1 m/s air stream
Long-Term Drift	<0.04 °C/year, typical

Vapor Pressure

Range	0–47 kPa
Resolution	0.01 kPa
Accuracy	Sensor measurement accuracy is variable across a range of temperatures and RH. Refer to the chart in Figure 4.

HUMIDITY (%RH)	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C
100%	± 0.05	± 0.09	± 0.16	± 0.29	± 0.49	± 0.81	± 1.30	± 2.62	± 6.32
95%	± 0.05	± 0.09	± 0.14	± 0.24	± 0.41	± 0.68	± 1.08	± 2.26	± 5.27
90%	± 0.05	± 0.07	± 0.09	± 0.15	± 0.33	± 0.54	± 1.06	± 2.23	± 5.20
85%	± 0.05	± 0.07	± 0.08	± 0.15	± 0.33	± 0.53	± 1.05	± 2.19	± 5.13
80%	± 0.04	± 0.07	± 0.08	± 0.15	± 0.32	± 0.53	± 0.83	± 1.84	± 4.07
75%	± 0.04	± 0.07	± 0.08	± 0.14	± 0.31	± 0.52	± 0.82	± 1.80	± 4.00
70%	± 0.04	± 0.07	± 0.08	± 0.14	± 0.31	± 0.51	± 0.81	± 1.77	± 3.93
65%	± 0.04	± 0.07	± 0.08	± 0.13	± 0.30	± 0.50	± 0.79	± 1.73	± 3.86
60%	± 0.04	± 0.05	± 0.07	± 0.13	± 0.22	± 0.36	± 0.57	± 1.38	± 3.30
55%	± 0.04	± 0.04	± 0.07	± 0.13	± 0.22	± 0.35	± 0.56	± 1.34	± 3.23
50%	± 0.03	± 0.04	± 0.07	± 0.12	± 0.21	± 0.34	± 0.55	± 1.31	± 3.16
45%	± 0.03	± 0.04	± 0.07	± 0.12	± 0.20	± 0.33	± 0.53	± 1.27	± 2.60
40%	± 0.03	± 0.03	± 0.07	± 0.12	± 0.20	± 0.33	± 0.52	± 1.24	± 2.53
35%	± 0.03	± 0.05	± 0.06	± 0.11	± 0.19	± 0.32	± 0.50	± 1.20	± 2.46
30%	± 0.03	± 0.05	± 0.06	± 0.11	± 0.19	± 0.31	± 0.49	± 1.17	± 2.39
25%	± 0.03	± 0.04	± 0.06	± 0.10	± 0.18	± 0.30	± 0.48	± 1.14	± 2.32
20%	± 0.03	± 0.06	± 0.06	± 0.10	± 0.25	± 0.41	± 0.67	± 1.10	± 2.25
15%	± 0.03	± 0.05	± 0.05	± 0.10	± 0.24	± 0.40	± 0.85	± 1.39	± 2.67
10%	± 0.05	± 0.07	± 0.08	± 0.14	± 0.31	± 0.52	± 0.84	± 1.67	± 4.08
5%	± 0.05	± 0.10	± 0.12	± 0.22	± 0.38	± 0.64	± 1.03	± 1.96	± 5.00
0%	± 0.08	± 0.15	± 0.12	± 0.22	± 0.45	± 0.75	± 1.22	± 3.21	± 5.92

TEMPERATURE (°C)

Figure 4 Vapor pressure sensor accuracy

Barometric Pressure

Range	50–110 kPa
Resolution	0.01 kPa
Accuracy	±0.4 kPa

TEROS 12 Soil Moisture, Temperature, and Electrical Conductivity (EC) Sensor

Volumetric Water Content (VWC)

Range	
Mineral soil calibration	0.00–0.70 m³/m³
Soilless media calibration	0.0–1.0 m³/m³
Apparent dielectric permittivity (ε_a)	1 (air) to 80 (water)

NOTE: The VWC range is dependent on the media the sensor is calibrated to. A custom calibration will accommodate the necessary ranges for most substrates.

Resolution	0.001 m³/m³
Accuracy	
Generic calibration	±0.03 m³/m³ typical in mineral soils that have solution EC <8 dS/m
Medium specific calibration	±0.01–0.02 m³/m³ in any porous medium
Apparent dielectric permittivity (ε_a)	1–40 (soil range) , ±1 ε_a (unitless) 40–80, 15% of measurement

Dielectric Measurement Frequency

70 MHz

TEROS 12 Temperature

Range	−40 to +60 °C
Resolution	0.1 °C
Accuracy	±0.5 °C from −40 to 0 °C ±0.3 °C from 0 to +60 °C

Bulk Electrical Conductivity (EC) (TEROS 12 Only)

Range	0–20 dS/m (bulk)
Resolution	0.001 dS/m
Accuracy	±(5% + 0.01 dS/m) from 0–10 dS/m ±8% from 10–20 dS/m

COMMUNICATION SPECIFICATIONS

Output	
Gateway	Ethernet (POE)
Wireless communication	Bluetooth mesh (Gateway, Routers, Sensors)
Sensor types	SDI-12 based

Antenna	
Manufacturer	Raltron
Model number	RST-W2-P-110-SMA-H
Gain	4.15 dBi vertically polarized, dipole professionally installed

NOTE: This radio transmitter IC-5123A-MGM12P0 has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device. Maximum Gain: 4.15 dBi Vertically polarized, dipole.

PHYSICAL SPECIFICATIONS

Dimensions	
Antenna (Gateway, Router, Router Climate, Sensor Station, Sensor Nose)	11.5 cm (4.53 in) **NOTE: Antenna is positioned straight out adding to the total length.**
Gateway	
Length	14.5 cm (5.71 in)
Width	10.5 cm (4.13 in)
Height	4.5 cm (1.78 in)
Router	
Length	14.6 cm (5.75 in)
Width	10.2 cm (4.00 in)
Height	14.3 cm (5 63 in)
Router Climate	
Length	15.5 cm (6.10 in)
Width	8.5 cm (3.35 in)
Height	3.7 cm (1.46 in)

ATMOS 14 with radiation shield	
Diameter	10 cm (3.94 in)
Height	8.5 cm (3.35 in)
Sensor Station	
Length	23.5 cm (9.25 in)
Width	18.0 cm (7.48 in)
Height	12.3 cm (4.84 in)
TEROS 12	
Length	9.4 cm (3.70 in)
Width	2.4 cm (0.95 in)
Height	7.5 cm (2.95 in)
Needle length	5.5 cm (2.17 in)
Sensor Station	
Length	6.99 cm (2.75 in)
Width	18.00 cm (7.10 in)
Height	3.02 cm (1.19 in)
TEROS 12	
Length	9.4 cm (3.70 in)
Width	2.4 cm (0.95 in)
Height	7.5 cm (2.95 in)
Needle length	5.5 cm (2.17 in)

Operating Temperature Range	
Minimum	−40 °C
Typical	50 °C
Maximum	80 °C

NOTE: Sensors may be used at higher temperatures under certain conditions; contact Customer Support for assistance.

Cable	
CAT 5E or better (Gateway)	
CAT 7 or better (Routers)	

Connector Types	
Gateway power	RJ 45 Ethernet cable
Router power	RJ 45 Ethernet cable
Sensor Station/ Sensor Nose power	RJ 45 Ethernet cable
ATMOS 14 and TEROS 12 sensor connection	M8 circular female plug and female thread (Sensor State/ Sensor Nose, Router, Router Climate)
Communications port	M8 circular female plug and female thread (Sensor State/ Sensor Nose, Router, Router Climate)

ELECTRICAL CHARACTERISTICS

Power	
Lithium-ion (Li-on) rechargeable battery	Battery cannot be replaced by the user. **NOTE: The Gateway device does NOT have a battery. It is powered over Ethernet**
Power Over Ethernet (POE)	42.5–57.0 V, up to 25.5 W

CAUTION: If using a nonmanufacturer supplied POE device to power this system, ensure that the voltage rating does not exceed the recommended values stated above. The injector module used must comply with IEEE 802.3af and must be able to supply at least 24 W for the Gateway to function as intended.

COMPLIANCE

Manufactured under ISO 9001:2015

3.2 COMPONENTS

This sections describes the components of the AROYA system.

3.2.1 GATEWAY (H210)

The Gateway provides sensor readings received from either a Router/Router Climate (Section 3.2.2)or Sensor Station/Sensor Nose (Section 3.2.3) to the AROYA app for the customer to review. The indicator light flashes orange when the device is powered from a POE switch. Ensure the device is powered by a device that supplies both Ethernet and power. The cable must be an RJ 45 CAT 5E or better.

The Gateway operates using the following components:

• Power over Ethernet (POE) module for continuous power

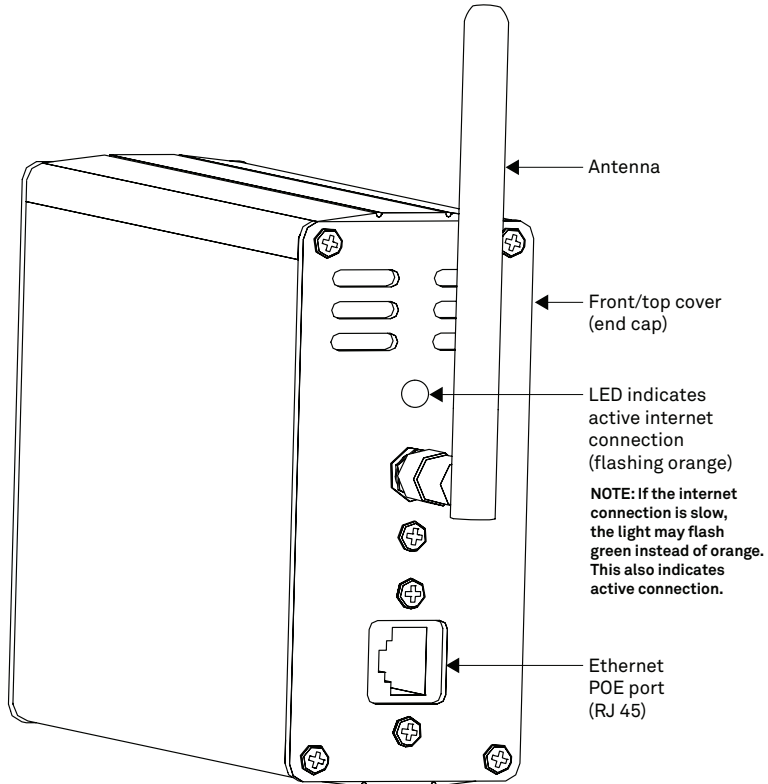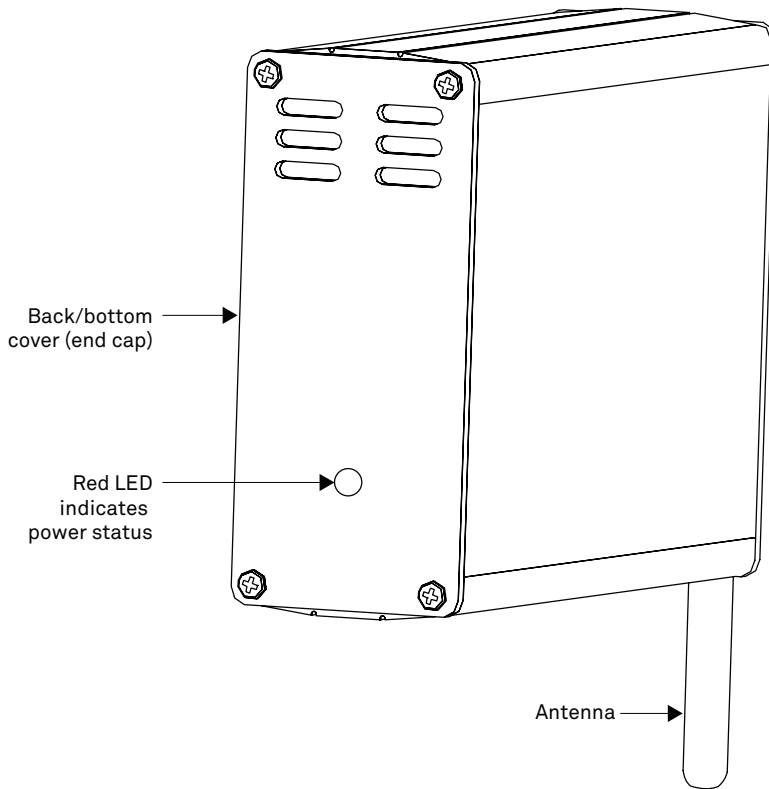• 2.4-GHz Bluetooth low-energy chip antenna

Antenna

Front/top cover
(end cap)

LED indicates
active internet
connection
(flashing orange)

**NOTE: If the internet
connection is slow,
the light may flash
green instead of orange.
This also indicates
active connection.**

Ethernet
POE port
(RJ 45)

Figure 5   AROYA Gateway—front/top view

Back/bottom
cover (end cap)

Red LED
indicates
power status

Antenna

Figure 6   AROYA Gateway—back/bottom view

3.2.2 ROUTER (H110) AND ROUTER CLIMATE (H111)

The AROYA Router/Router Climate receives data from the sensor stations and transmits data to the gateway wirelessly. The Router acts as a range extension for the network and funnels the data to the Gateway device. The Router operates on a Bluetooth Mesh network and relies on an active POE connection to supply power to the device.

The Router and Router Climate both operate using the following components:

• POE module for continuous power

• Rechargeable lithium-ion battery for back-up power

• 2.4-GHz two-way antenna for Bluetooth communication

• 38.4-MHz oscillator for high frequency, precise timing reference

• 32.768-kHz oscillator for low-frequency, low-energy timing reference

Blue LED
indicates
power ON

COM

Sensor

Front/top
cover (end cap)

Ethernet
POE port
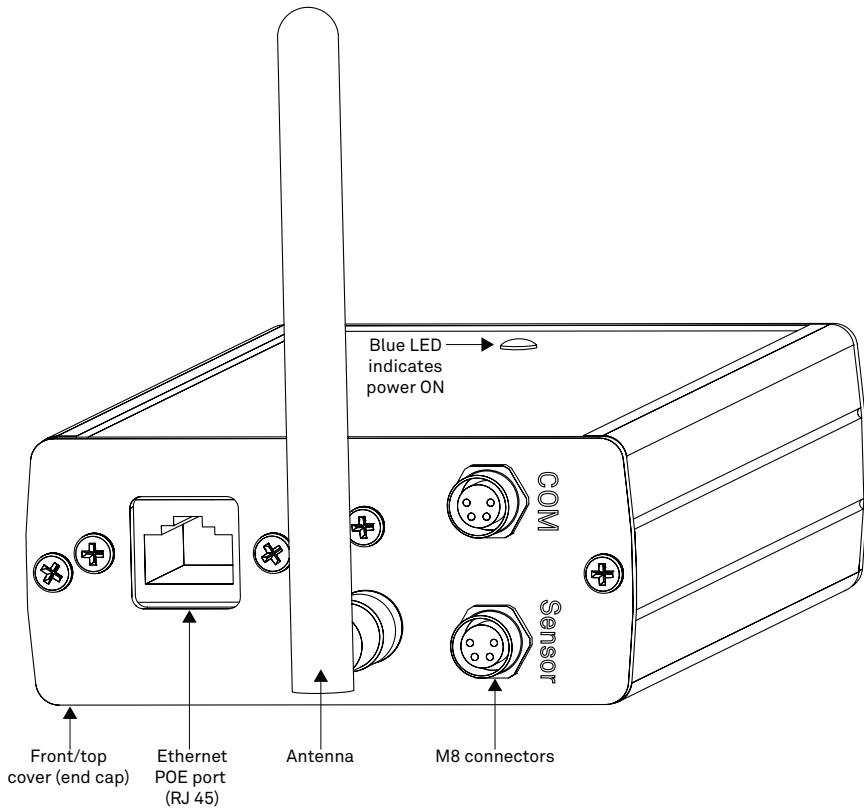(RJ 45)

Antenna

M8 connectors

Figure 7   AROYA Router—front/top view

The AROYA Router Climate receives data from the Sensor Stations/Sensor Noses and transmits data to the Gateway wirelessly. The ATMOS 14, located in a radiation shield and attached to the Router Climate, collect microclimate data that is also transmitted to the Gateway. The radiation shield comprises a mounting bracket and seven discs. The shield prevents direct sunlight from coming into contact with the sensor. This isolation from solar radiation prevents false readings of elevated temperatures, allowing for accurate measurement of ambient air temperature.

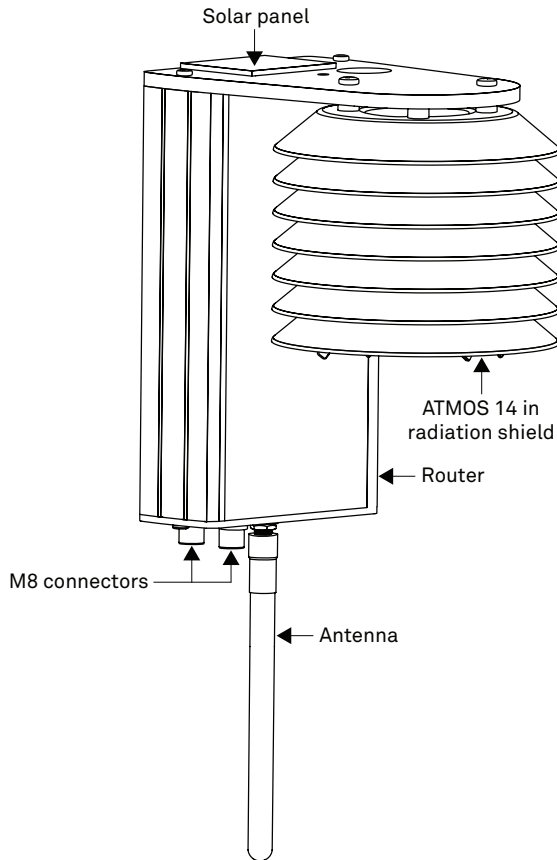**Figure 8   AROYA Router Climate with ATMOS 14 sensor**

3.2.3 SENSOR STATION (H310) AND SENSOR NOSE (H311)

Figure 9 and Figure 10 show the AROYA Sensor Station and Figure 11 and Figure 12 show the AROYA Sensor Nose. Both the Station and the Nose contain a TEROS 12 soil moisture sensor, location for plant, communication components, and antenna to communicate data gathered by the TEROS 12 to the router or directly to the gateway if the base is close enough.

The Sensor Station and Sensor Nose both operate using the following components:

• Rechargeable lithium-ion battery

• Solar Panels for energy harvesting

• 2.4-GHz two-way antenna for Bluetooth communication

• 38.4-MHz oscillator for high frequency, precise timing reference

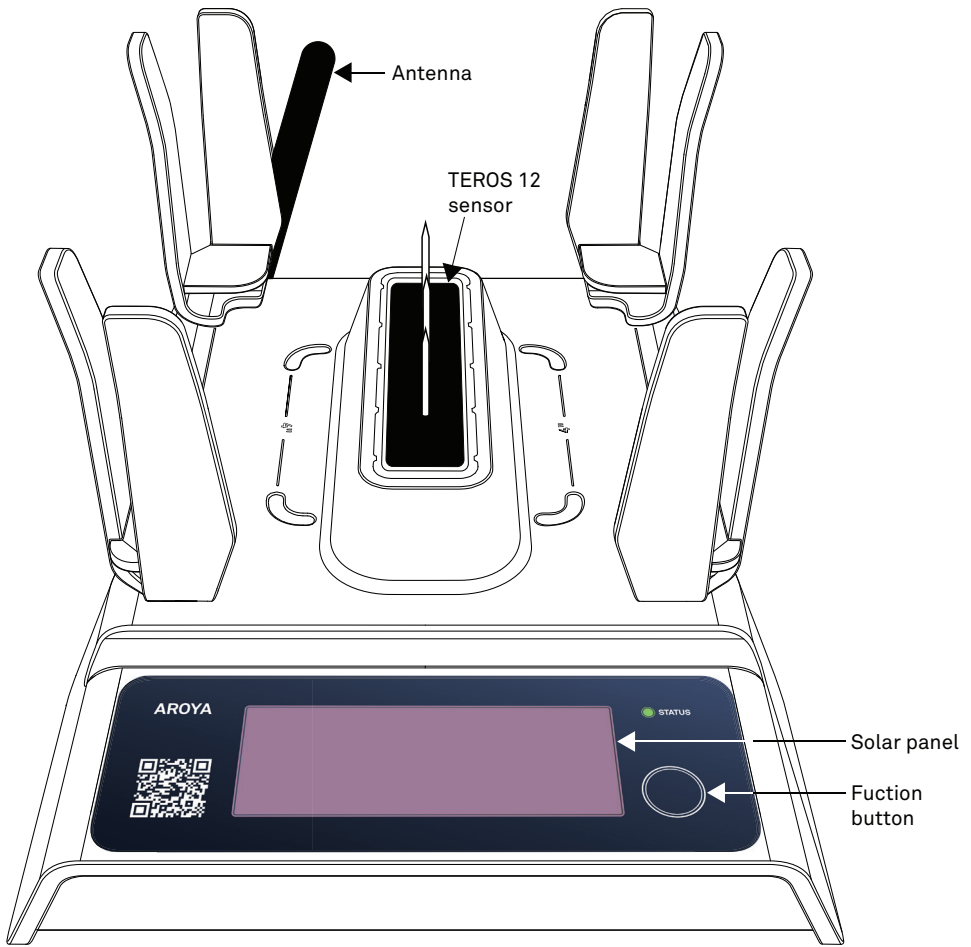• 32.768-kHz oscillator for low-frequency, low-energy timing reference

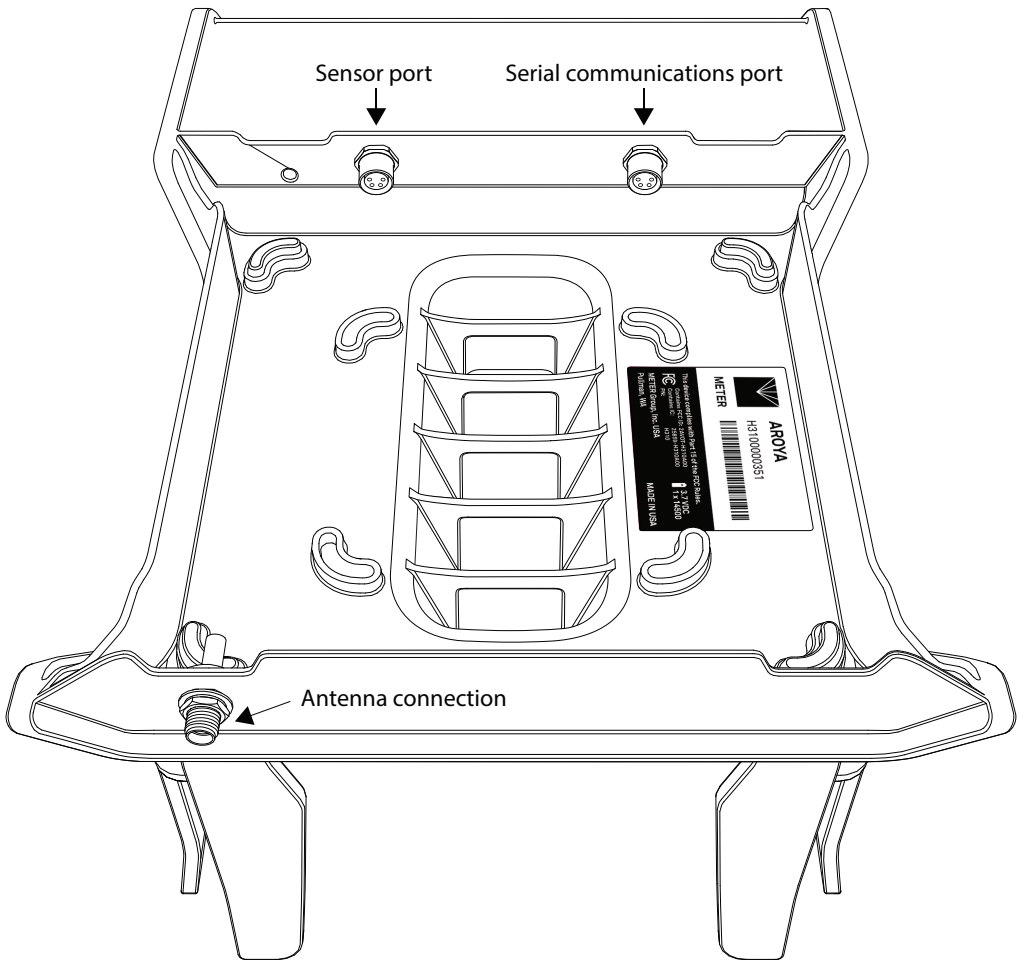**Figure 9   AROYA sensor station with TEROS 12 sensor**

Figure 10   AROYA sensor station connections—bottom view

The AROYA Senosr Nose is another version of the station with a different form factor allows the TEROS 12 prongs to be inserted into the side of slabs of soil. The Sensor Nose is powered with a lithium-ion battery that is solar charged.
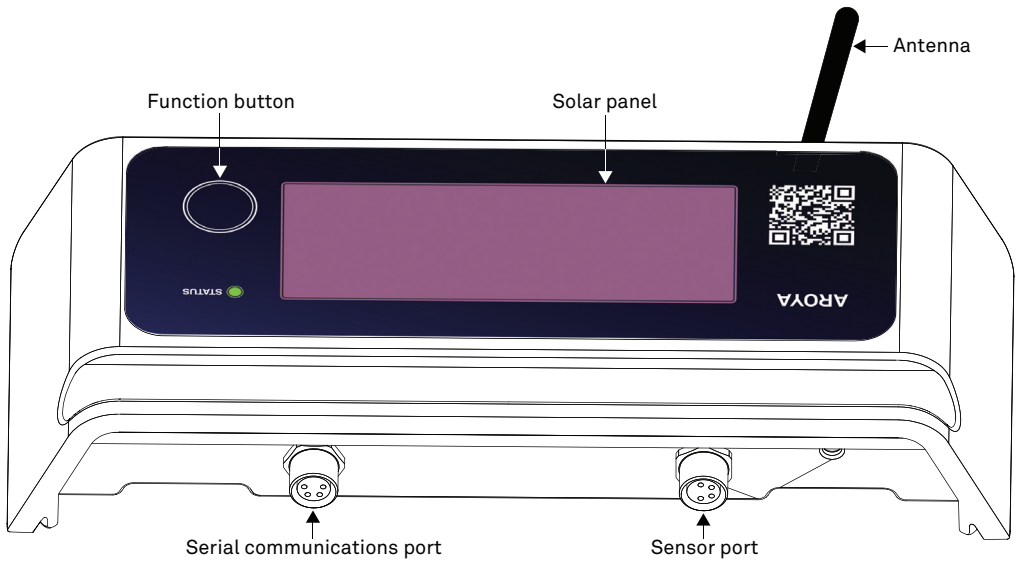
Antenna

Function button

Solar panel

STATUS

AROYA

Serial communications port

Sensor port

Figure 11   AROYA sensor nose—top view

Serial label

MADE IN USA
METER Group, Inc. USA
Pullman, WA
This device complies with Part 15 of the FCC Rules.
Contains FCC ID: 2A5DF-H310A00
HWR: H310A00
5 V DC
1 x X4500

AROYA
METER
H311000351

Antenna
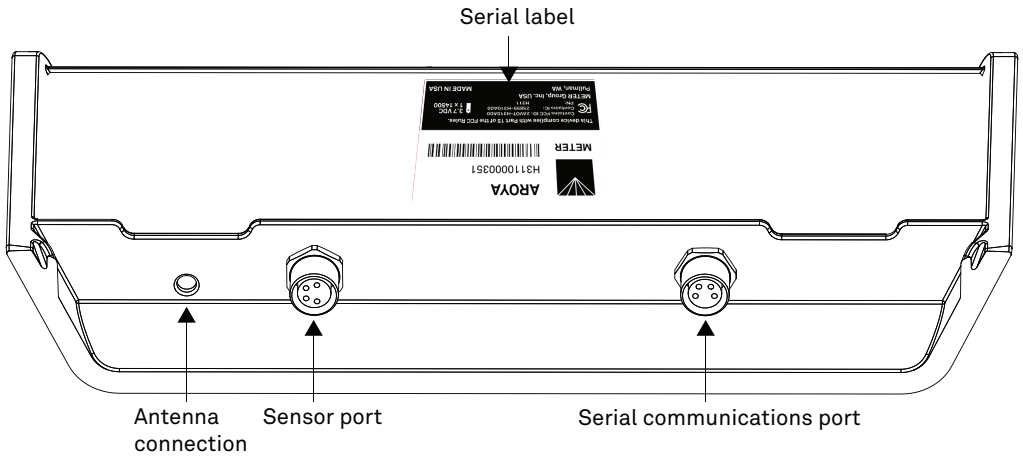connection

Sensor port

Serial communications port

Figure 12   AROYA sensor nose—bottom view

4. SERVICE

This section describes the calibration and maintenance of the AROYA. Troubleshooting solutions and customer support information are also provided.

The AROYA Sensor Station, Sensor Nose, Router, and Router Climate, and Gateway should be returned to METER in the event that it quits working for any reason or if the battery no longer holds a charge. Please refer to Section 4.2 for instructions for returning the product to METER.

4.1 MAINTENANCE

AROYA must be returned to METER for maintenance. Refer to the RMA section or contact Customer Support for more information.

NOTE: The user should not and cannot perform any maintenance. The battery is not accessible.

4.2 REPAIRS

METER repairs manufacturer defects and instruments within the 1-year warranty at no charge. Repairs outside of the warranty window are charged based on cost of parts, labor, and shipping. An extra fee may be charged for rush work. Contact Customer Support for an estimated repair cost.

METER has loaner instruments available for a fee while the AROYA Gateway is being serviced.

All AROYA units returning to METER for servicing must be accompanied with a Return Merchandise Authorization (RMA) number. Prior to shipping the instrument, contact Customer Support to obtain an RMA number.

1. Place the AROYA unit in a plastic bag to avoid disfiguring marks from the packaging.

2. Do not ship the power cord, serial cable, or any other accessories.

3. Ship the AROYA unit in its original box with suspension packaging.

4. If the original packaging is not available, use a box with at least 4 in of packing material (e.g., Styrofoam™ peanuts or bubble wrap) between the instrument and each wall of the box, ensuring the instrument is suspended in the packing material.

5. On the RMA form, please verify the ship to and bill to information, contact name, and problem description. If anything is incorrect, please contact Customer Support.

6. Tape the box in both directions for added support.

7. Include the RMA number in the attention line on the shipping label.

4.3 TROUBLESHOOTING

Table 6 lists common problems and their solutions. If the problem is not listed or these solutions do not solve the issue, contact Customer Support.

Table 6   Troubleshooting

Problem	Possible Solutions
Sensor is not reporting data	**GATEWAY** Check that the device is powered on by observing the red light is on. Confirm internet connectivity through the orange flashing light. **ROUTER and ROUTER CLIMATE** Check that the device is powered on (solid red light). **SENSOR STATION and SENSOR NOSE** Make sure that the STATUS light flashes green upon pressing the function button to indicate that the device is set on. If the STATUS light flashes red upon pressing function button, then the device is asleep. Press the function button until the light response flashes green. If problems with the device persist please reset the sensor hardware by holding the press pad button for more than 3 s and wait to confirm the light indicated reset for 3 s.

4.4 CUSTOMER SUPPORT

NORTH AMERICA

Customer service representatives are available for questions, problems, or feedback Monday through Friday, 7:00 am to 5:00 pm Pacific time.

Email: support.aroya@metergroup.com
sales.aroya@metergroup.com

Phone: +1.509.332.2756

Fax: +1.509.332.5158

Website: metergroup.com

EUROPE

Customer service representatives are available for questions, problems, or feedback Monday through Friday, 8:00 to 17:00 Central European time.

Email: support.europe@metergroup.com
              sales.europe@metergroup.com

Phone: +49 89 12 66 52 0

Fax: +49 89 12 66 52 20

Website: metergroup.de

If contacting METER by email, please include the following information:

Name   Email address
Address   Instrument serial number
Phone   Description of the problem

NOTE: For products purchased through a distributor, please contact the distributor directly for assistance.

4.5 TERMS AND CONDITIONS

By using METER instruments and documentation, you agree to abide by the METER Group, Inc. USA Terms and Conditions. Please refer to metergroup.com/terms-conditions for details. Compliance Certifications.

APPENDIX A. COMPLIANCE CERTIFICATIONS

A.1 USA

⚠️

CAUTION: This marking indicates that the user should read all included documentation before use. Users of this product are cautioned to use accessories and peripherals approved by METER Group, Inc. USA. The use of accessories other than those recommended, or changes to this product that are not approved by METER Group, may void the compliance of this product and may result in the loss of the user's authority to operate the equipment.

⚠️

CAUTION: If using a nonmanufacturer-supplied POE device to power this system, ensure that the voltage rating does not exceed the recommended values stated above. The injector module used must comply with IEEE 802.3af and must be able to supply at least 24 W for the AROYA Router to function as intended.

FCC § 15.19 LABELING REQUIREMENTS

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC § 15.21 INFORMATION TO USER

Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC § 15.105 INFORMATION TO USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

U.S.A. DIGITAL EMISSIONS COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CANADIAN DIGITAL APPARATUS COMPLIANCE

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CANADA CLASS A STATEMENT

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

RADIO PRECAUTION STATEMENT

Radio transmitters IC-5123A-MGM12P0, IC-25859-H110A00, and IC-25859-H310A00 have been approved by Innovation, Science, and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Maximum Gain: 4.15 dBi, 50 ohm, Vertically polarized, dipole antenna.

802.11 RADIO PRECAUTION STATEMENT

⚠️

CAUTION: Users are responsible for configuring the channels of operation that comply with their country's regulatory standards. A Wireless Network Administrator should review the operating restrictions detailed within the Access Point installation manual.

⚠️

CAUTION: See battery instructions. No user-serviceable parts. Charge only according to instructions in Section 7.2. Use of incorrect charger may present a risk of fire or explosion.

BATTERY RECYCLING INFORMATION

Li-ion Li-ion

This product contains or uses a lithium-ion (Li-ion) main battery. When the battery reaches the end of its useful life (no longer holds a charge), the user should return the Sensor Station, Sensor Nose, Router, or Router Climate to METER Group, Inc. USA. Do not mix this battery with the solid waste stream. Contact Customer Service for return information.

A.2 CANADA

⚠

CAUTION: This marking indicates that the user should read all included documentation before use. Users of this product are cautioned to use accessories and peripherals approved by METER Group, Inc. USA. The use of accessories other than those recommended, or changes to this product that are not approved by METER Group, may void the compliance of this product and may result in the loss of the user's authority to operate the equipment.

⚠

MISE EN GARDE: ce marquage indique que l'usager doit, avant l'utilisation, lire toute la documentation incluse. Les utilisateurs de ce produit sont avisés d'utiliser des accessoires et des périphériques approuvés par METER Group Inc., USA. L'utilisation d'accessoires autres que ceux recommandés ou des changements à ce produit qui ne sont pas approuvés par Meter Group Inc. peuvent annuler la conformité de ce produit et mettre fin au droit de l'usager d'utiliser l'équipement.

⚠

CAUTION: If using a nonmanufacturer-supplied POE device to power this system, ensure that the voltage rating does not exceed the recommended values stated above. The injector module used must comply with IEEE 802.3af and must be able to supply at least 24 W for the AROYA Router to function as intended.

⚠

MISE EN GARDE: si vous utilisez un dispositif POE non fourni par le fabricant pour alimenter ce système, assurez-vous que la tension nominale ne dépasse pas les valeurs recommandées ci-dessus. Le module d'injection utilisé doit être conforme à la norme IEEE 802.3af et doit être en mesure de fournir au moins 24 W pour que le routeur AROYA fonctionne comme prévu.

FCC § 15.19 LABELING REQUIREMENTS

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC § 15.19 EXIGENCES D'ÉTIQUETAGE

Cet appareil est conforme à la partie 15 des règles de la FCC et aux normes RSS exemptes de licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes.

1. Cet appareil ne doit pas provoquer d'interférences nuisibles, et
2. Cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant entraîner un fonctionnement indésirable.

FCC § 15.21 INFORMATION TO USER

Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC § 15.21 INFORMATION À L'UTILISATEUR

Les changements ou modifications non expressément approuvés par la partie responsable de la conformité peuvent annuler le droit de l'utilisateur à utiliser l'équipement.

FCC § 15.105 INFORMATION TO USER

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC § 15.105 INFORMATION À L'UTILISATEUR

Cet équipement a été testé et déclaré conforme aux limites d'un appareil numérique de classe A, conformément à la partie 15 des règles de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles lorsque l'équipement est utilisé dans un environnement commercial.

Cet équipement génère, utilise et peut émettre de l'énergie de radiofréquence et, s'il n'est pas installé et utilisé conformément au manuel d'instructions, peut provoquer des interférences nuisibles aux communications radio. Le fonctionnement de cet équipement dans une zone résidentielle est susceptible de provoquer des interférences nuisibles, auquel cas l'utilisateur devra corriger les interférences à ses propres frais.

U.S.A. DIGITAL EMISSIONS COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CONFORMITÉ AUX ÉMISSIONS NUMÉRIQUES AUX ÉTATS-UNIS

Cet équipement a été testé et déclaré conforme aux limites d'un appareil numérique de classe A, conformément à la partie 15 des règles de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles lorsque l'équipement est utilisé dans un environnement commercial. Cet équipement génère, utilise et peut émettre de l'énergie de radiofréquence et, s'il n'est pas installé et utilisé conformément au manuel d'instructions, peut provoquer des interférences nuisibles aux communications radio. Le fonctionnement de cet équipement dans une zone résidentielle est susceptible de provoquer des interférences nuisibles, auquel cas l'utilisateur devra corriger les interférences à ses propres frais.

CANADIAN DIGITAL APPARATUS COMPLIANCE

This device complies with Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CONFORMITÉ DES APPAREILS NUMÉRIQUES AU CANADA

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : 1) l'appareil ne doit pas produire d'interférences nuisibles, et 2) l'appareil doit accepter toute interférence reçue, y compris les interférences pouvant entraîner un fonctionnement indésirable.

CANADA CLASS A STATEMENT

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

DÉCLARATION CLASSE A DU CANADA

Cet appareil numérique de la Classe A est conforme à toutes les exigences du Règlement canadien sur les équipements causant des interférences.

RADIO PRECAUTION STATEMENT

Radio transmitters IC-5123A-MGM12P0, IC-25859-H110A00, and IC-25859-H310A00 have been approved by Innovation, Science, and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Maximum Gain: 4.15 dBi, 50 ohm, Vertically polarized, dipole antenna.

DÉCLARATION DE PRÉCAUTION RADIO

Les émetteurs radio IC-5123A-MGM12P0, IC-25859-H110A00, IC-25859-H110A00, IC-25859-H310A00 et IC-25859-H311A00 ont été approuvés par Innovation, Science et Développement économique Canada pour fonctionner avec les types d'antennes répertoriés ci-dessous, avec le gain maximum autorisé indiqué. Les types d'antennes non inclus dans cette liste qui ont un gain supérieur au gain maximal indiqué pour tout type répertorié sont strictement interdits pour utilisation avec cet appareil.

Gain maximal : 4,15 dBi, 50 ohms, antenne dipôle polarisée verticalement.

802.11 RADIO PRECAUTION STATEMENT

⚠️

CAUTION: Users are responsible for configuring the channels of operation that comply with their country's regulatory standards. A Wireless Network Administrator should review the operating restrictions detailed within the Access Point installation manual.

DÉCLARATION DE PRÉCAUTION RADIO 802.11

⚠️

CAUTION: les utilisateurs sont responsables de la configuration des canaux de fonctionnement conformes aux normes réglementaires de leur pays. Un administrateur de réseau sans fil doit examiner les restrictions d'exploitation détaillées dans le manuel d'installation du point d'accès.

⚠️

CAUTION: See battery instructions. No user-serviceable parts. Charge only according to instructions in Section 4.2. Use of incorrect charger may present a risk of fire or explosion.

BATTERY RECYCLING INFORMATION

Li-ion Li-ion

This product contains or uses a lithium-ion (Li-ion) main battery. When the battery reaches the end of its useful life (no longer holds a charge), the user should return the Sensor Station, Sensor Nose, Router, or Router Climate to METER Group, Inc. USA. Do not mix this battery with the solid waste stream. Contact Customer Support for return information.

⚠️

CAUTION: consultez les instructions de la batterie. Aucune pièce réparable par l'utilisateur. Chargez uniquement conformément aux instructions de la section 7.2. L'utilisation d'un chargeur incorrect peut présenter un risque d'incendie ou d'explosion.

INFORMATIONS SUR LE RECYCLAGE DE LA BATTERIE

Li-ion Li-ion

Ce produit contient ou utilise une batterie principale au lithium-ion (Li-ion). Lorsque la batterie atteint la fin de sa durée de vie (ne tient plus la charge), l'utilisateur doit renvoyer la station du capteur, le nez du capteur, le routeur ou le routeur de climat à METER Group, Inc. USA. Ne mélangez pas cette batterie avec le flux de déchets solides. Contactez le service client pour obtenir des informations de retour.

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